ORDER NO. KMS0303671C3

Service Manual

Digital Proprietary Telephone

KX-T7630

(for Australia)

Panasonic

IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING

If lead free solder was used in the manufacture of this product the printed circuit boards will be marked PbF.
Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.

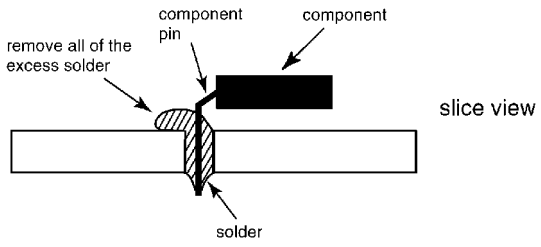
When this mark does appear please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.

1. ABOUT LEAD FREE SOLDER (PbF: Pb free)

Note:
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.
We will use PbF when discussing the lead free solder used in our manufacturing process which is made from Tin, (Sn), Silver, (Ag), and Copper, (Cu).
This model, and others like it, manufactured using lead free solder will have PbF stamped on the PCB. For service and repair work we suggest using the same type of solder although, with some precautions, standard Pb solder can also be used.

Caution

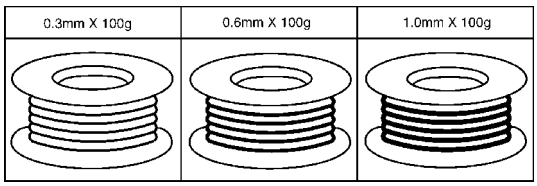
- **PbF solder has a melting point that is 50° ~ 70° F, (30° ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700° ± 20° F, (370° ± 10°C). In case of using high temperature soldering iron, please be careful not to heat too long.**
- **PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F, (600°C).**
- **If you must use Pb solder on a PCB manufactured using PbF solder, remove as much of the original PbF solder as possible and be sure that any remaining is melted prior to applying the Pb solder.**
- **When applying PbF solder to double layered boards, please check the component side for excess which may flow onto the opposite side (See figure, below).**



1.1. SUGGESTED PbF SOLDER

There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper,

(Sn+Ag+Cu), you can also use Tin and Copper, (Sn+Cu), or Tin, Zinc, and Bismuth, (Sn+Zn+Bi). Please check the manufac
turer's specific instructions for the melting points of their products and any precautions for using their product with other
materials.
The following lead free (PbF) solder wire sizes are recommended for service of this product: 0.3mm, 0.6mm and 1.0mm.



1.2. HOW TO RECOGNIZE THAT Pb FREE SOLDER IS USED

PbF is stamped to show that Pb free solder is used. (See the figure below.)

2. FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.
When repairing, the following precautions will help prevent recurring malfunctions.

1. Cover the plastic parts boxes with aluminum foil.

2. Ground the soldering irons.

3. Use a conductive mat on the worktable.

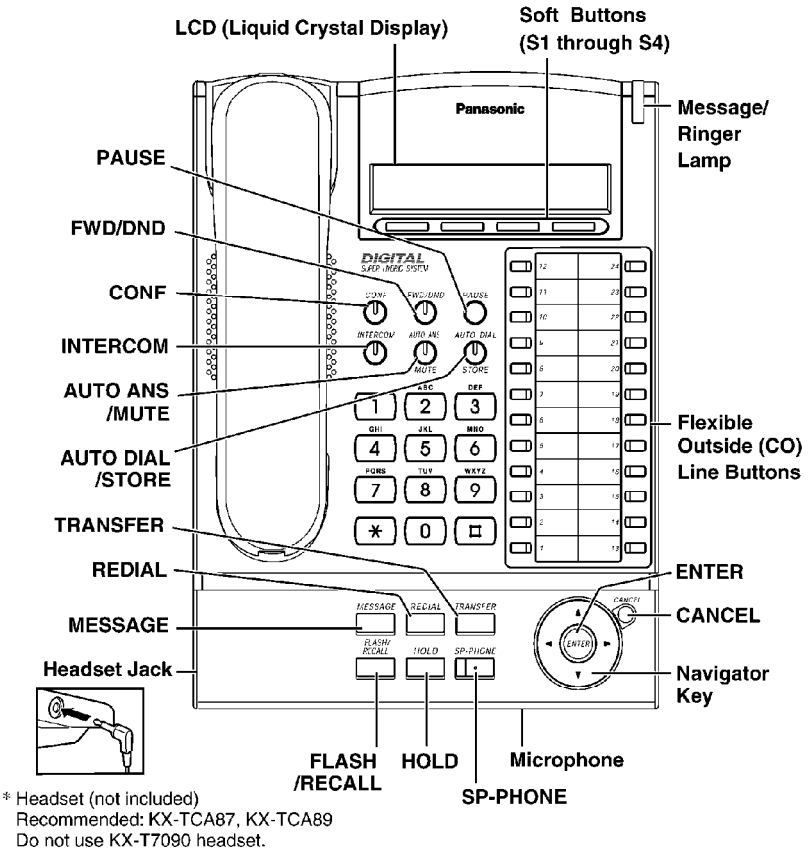
4. Do not touch IC or LSI pins with bare fingers.

3. SPECIFICATIONS

Station Loop Limit:	**90 ohms**	
Calling Method:	**2 pair wire**	
Jacks:	**Handset Jack, TEL Jack, Headset Jack**	
Dimensions:	**Low Angle:**	**265 (D)mm [Operate] × 208 (W)mm × 128 (H)mm**
	High Angle:	**212 (D)mm [Operate] × 208 (W)mm × 202 (H)mm**
		213 (D)mm [Base]
Weight:	**1.13kg**	

Design and specifications are subject to change without notice.

4. LOCATION OF CONTROLS



* Headset (not included)
Recommended: KX-TCA87, KX-TCA89
Do not use KX-T7090 headset.

PAUSE

PAUSE:
Used to insert a pause when storing a telephone number. This button also functions as the PROGRAM button when there is no PROGRAM button on your telephone.

FWD/DND

FWD/DND (Call Forwarding / Do Not Disturb):
Used to perform Call Forwarding or Do Not Disturb.

CONF

CONF (Conference):
Used to establish a multiple-party conversation.

INTERCOM

INTERCOM:
Used to make or receive intercom calls.

AUTO ANS / MUTE

AUTO ANS (Auto Answer) / MUTE:
Used to receive an incoming call in hands-free mode or mute the microphone/handset during a conversation.

AUTO DIAL / STORE

AUTO DIAL / STORE:
Used for System/Personal Speed Dialling or storing program changes.

TRANSFER

TRANSFER:
Used to transfer a call to another party.

REDIAL

REDIAL:
Used to redial the last dialed number.

MESSAGE

MESSAGE:
Used to leave a message waiting indication or call back the party who left the message waiting indication.

FLASH/ RECALL

FLASH/RECALL:
Used to disconnect the current call and make another call without hanging up.

HOLD

HOLD:
Used to place a call on hold.

SP-PHONE

SP-PHONE (Speakerphone):
Used for the hands-free operation.

Navigator Key :
Used to adjust the volume and the display contrast or select desired items.

CANCEL

CANCEL :
Used to cancel the selected item.

ENTER :
Used to confirm the selected item.

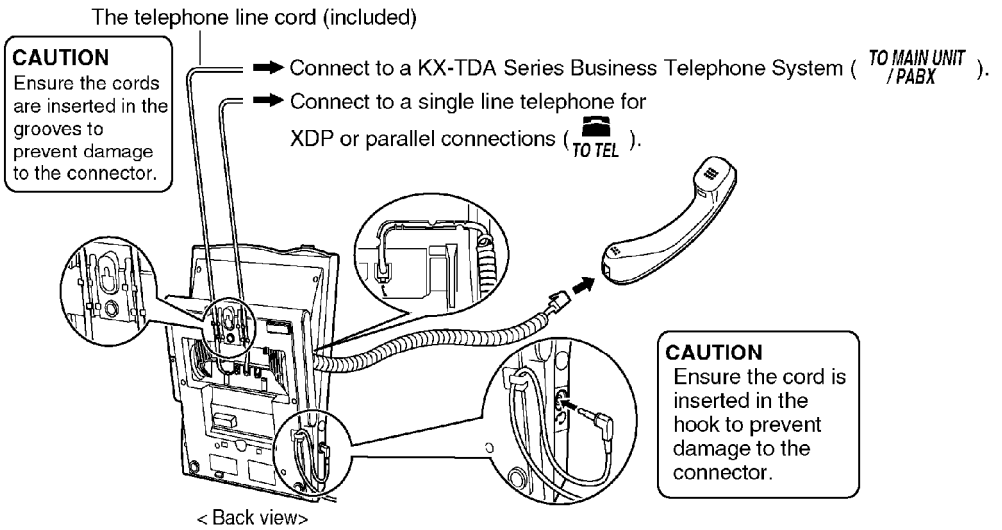
(CO)

CO:
Used to make or receive an outside call. Pressing this button seizes an idle outside line automatically. (Button assignment is required.) Also used as feature buttons. (Button assignment is required.)

Message/Ringer Lamp:
When you receive an intercom call, the lamp flashes green, and on an outside call, the lamp flashed red. When someone has left you a message, the lamp stays on red.

Soft Buttons:
Used to select the item displayed on the bottom line on the display.

5. CONNECTION


The telephone line cord (included)
CAUTION
Ensure the cords are inserted in the grooves to prevent damage to the connector.
Connect to a KX-TDA Series Business Telephone System (TO MAIN UNIT / PABX).
Connect to a single line telephone for XDP or parallel connections (TO TEL).
CAUTION
Ensure the cord is inserted in the hook to prevent damage to the connector.
< Back view>

Caution:

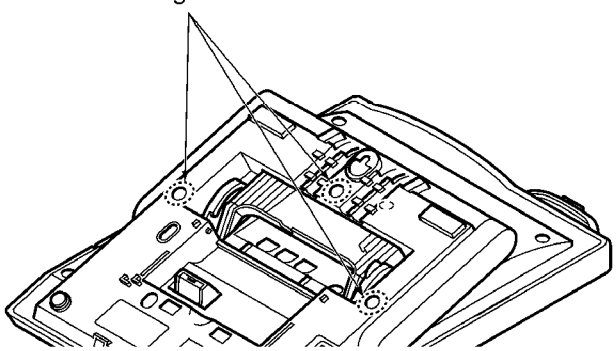
Consult your dealer for more details about XDP.

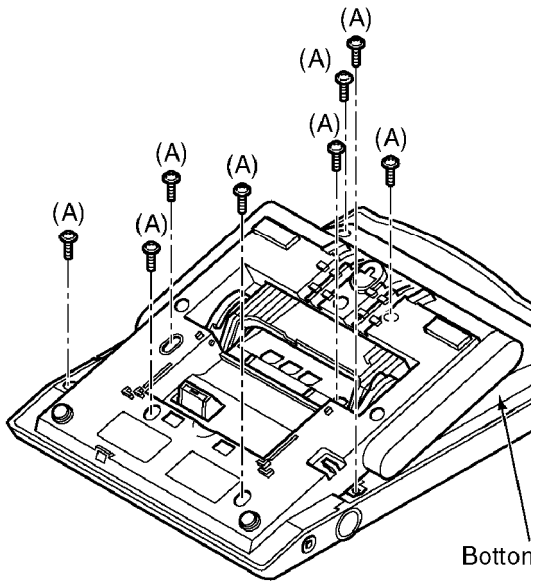
6. DISASSEMBLY INSTRUCTIONS

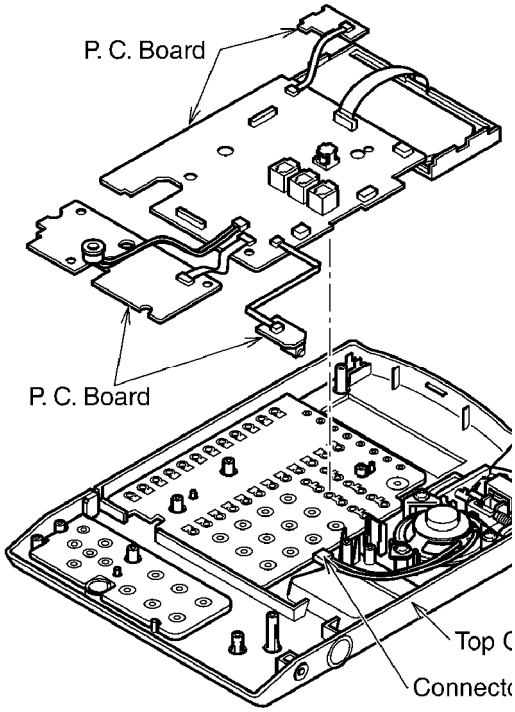
1. Remove 9 Screws (A).

2. Remove the Bottom Cabinet.

It is not necessary to remove these screws for removing P.C.Board.





3. Remove the P. C. Board from the Top Cabinet.	

7. HOW TO REPLACE A FLAT PACKAGE IC

7.1. PREPARATION

- PbF (: Pb free) Solder

- Soldering Iron

Tip Temperature of 700°F ± 20°F (370°C ± 10°C)

Note: We recommend a 30 to 40 Watt soldering iron. An expert may be able to use a 60 to 80 Watt iron where someone with less experience could overheat and damage the PCB foil.

- Flux

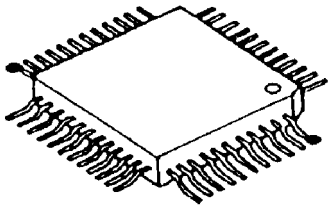
Recommended Flux: Specific Gravity → 0.82.

Type → RMA (lower residue, non-cleaning type)

Note: See ABOUT LEAD FREE SOLDER (PbF: Pb free) ().

7.2. PROCEDURE

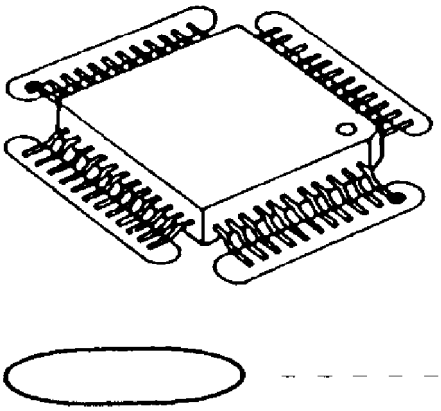
1. Tack the flat pack IC to the PCB by temporarily soldering two diagonally opposite pins in the correct positions on the PCB.



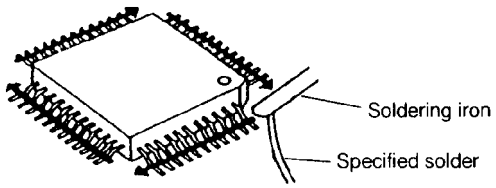
● – – – – – – Temporary soldering point.

Be certain each pin is located over the correct pad on the PCB.

2. Apply flux to all of the pins on the IC.



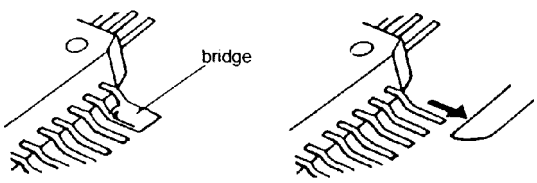
3. Being careful to not unsolder the tack points, slide the soldering iron along the tips of the pins while feeding enough solder to the tip so that it flows under the pins as they are heated.



7.3. REMOVING SOLDER FROM BETWEEN PINS

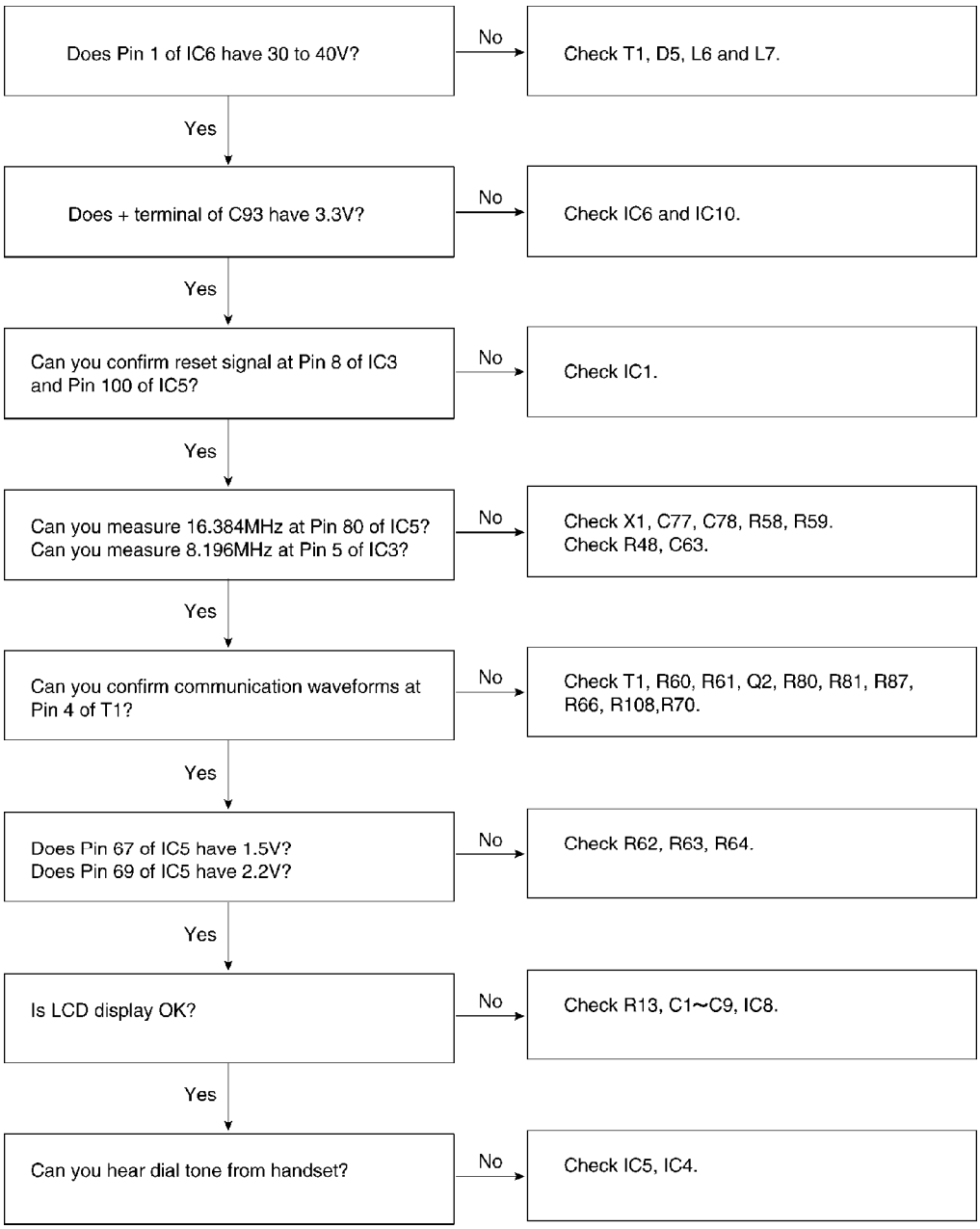
1. Add a small amount of solder to the bridged pins.

2. With a hot iron, use a sweeping motion along the flat part of the pin to draw the solder from between the adjacent pads.



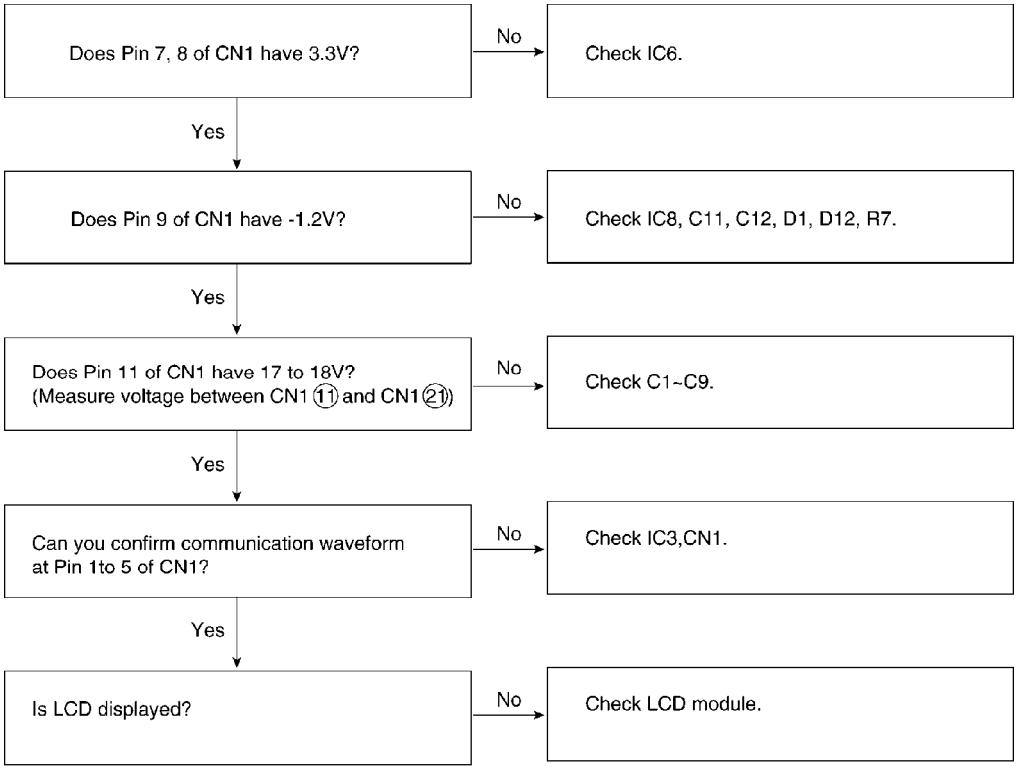
8. TROUBLESHOOTING GUIDE

8.1. NO OPERATION


Does Pin 1 of IC6 have 30 to 40V?
No
Check T1, D5, L6 and L7.
Yes
Does + terminal of C93 have 3.3V?
No
Check IC6 and IC10.
Yes
Can you confirm reset signal at Pin 8 of IC3 and Pin 100 of IC5?
No
Check IC1.
Yes
Can you measure 16.384MHz at Pin 80 of IC5? Can you measure 8.196MHz at Pin 5 of IC3?
No
Check X1, C77, C78, R58, R59. Check R48, C63.
Yes
Can you confirm communication waveforms at Pin 4 of T1?
No
Check T1, R60, R61, Q2, R80, R81, R87, R66, R108,R70.
Yes
Does Pin 67 of IC5 have 1.5V? Does Pin 69 of IC5 have 2.2V?
No
Check R62, R63, R64.
Yes
Is LCD display OK?
No
Check R13, C1~C9, IC8.
Yes
Can you hear dial tone from handset?
No
Check IC5, IC4.

Note:
Refer to (1)~(5) of WAVEFORM () for waveform.

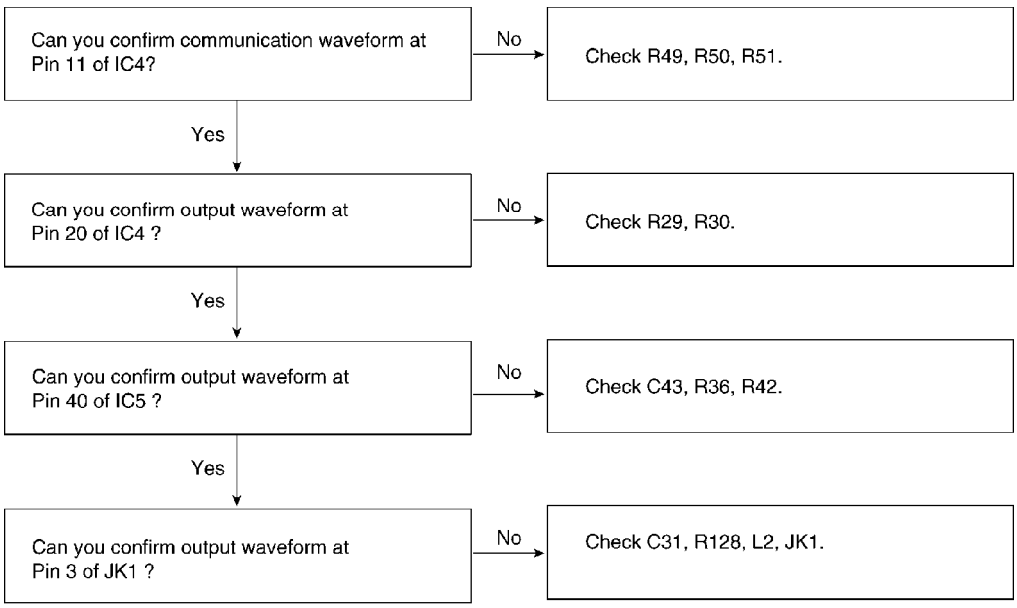
8.2. LCD DOES NOT OPERATION



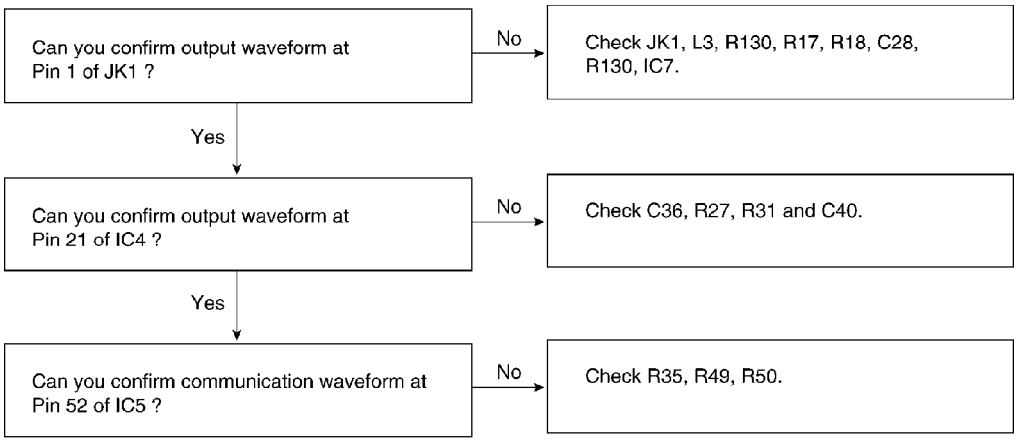
Note:
Refer to (6) of WAVEFORM () for waveform.

8.3. HANDSET DOES NOT WORK

Receive



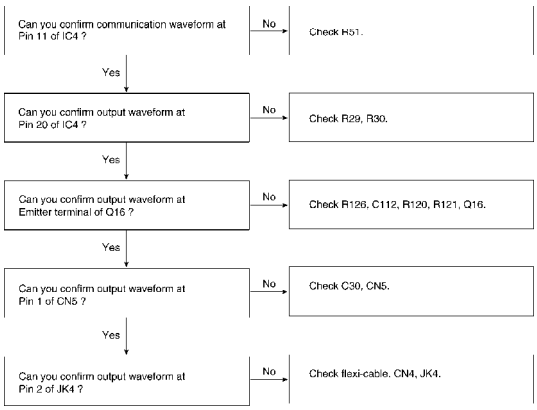
Send


Can you confirm output waveform at Pin 1 of JK1 ?
No
Check JK1, L3, R130, R17, R18, C28, R130, IC7.
Yes
Can you confirm output waveform at Pin 21 of IC4 ?
No
Check C36, R27, R31 and C40.
Yes
Can you confirm communication waveform at Pin 52 of IC5 ?
No
Check R35, R49, R50.

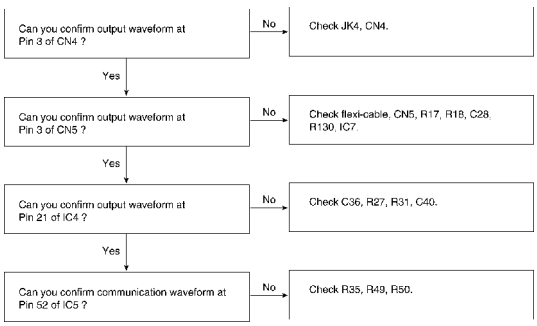
Note:
Refer to (7)~(8) of WAVEFORM () for waveform.

8.4. HEADSET DOES NOT WORK

Receive


Can you confirm communication waveform at Pin 11 of IC4 ?
No
Check R51.
Yes
Can you confirm output waveform at Pin 20 of IC4 ?
No
Check R29, R30.
Yes
Can you confirm output waveform at Emitter terminal of Q16 ?
No
Check R126, C112, R120, R121, Q16.
Yes
Can you confirm output waveform at Pin 1 of CN5 ?
No
Check C30, CN5.
Yes
Can you confirm output waveform at Pin 2 of JK4 ?
No
Check flexi-cable, CN4, JK4.

Send

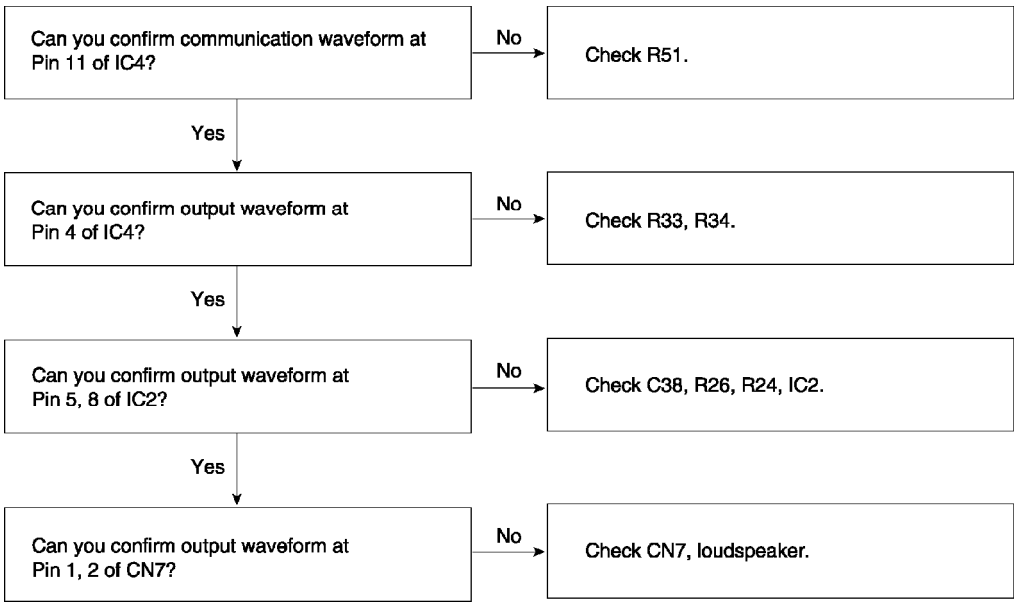

Can you confirm output waveform at Pin 3 of CN4 ?
No
Check JK4, CN4.
Yes
Can you confirm output waveform at Pin 3 of CN5 ?
No
Check flexi-cable, CN5, R17, R18, C28, R130, IC7.
Yes
Can you confirm output waveform at Pin 21 of IC4 ?
No
Check C36, R27, R31, C40.
Yes
Can you confirm communication waveform at Pin 52 of IC5 ?
No
Check R35, R49, R50.

Note:

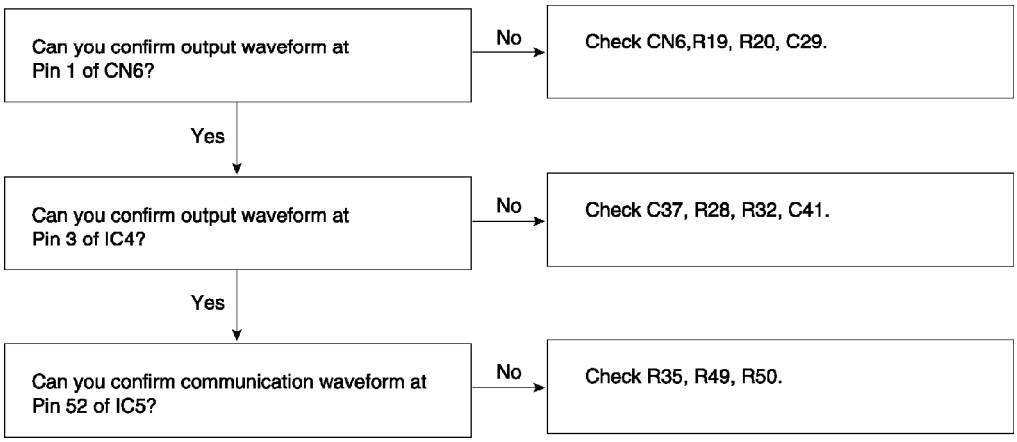
Refer to (7)~(8) of WAVEFORM () for waveform.

8.5. SPEAKER-PHONE TROUBLE

Receive

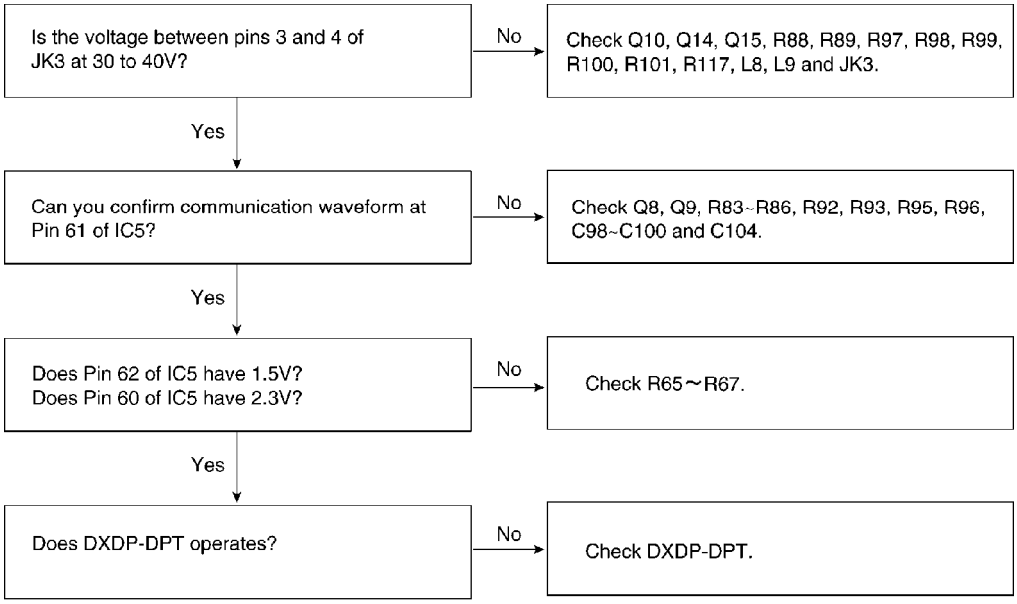

Can you confirm communication waveform at Pin 11 of IC4?
No
Check R51.
Yes
Can you confirm output waveform at Pin 4 of IC4?
No
Check R33, R34.
Yes
Can you confirm output waveform at Pin 5, 8 of IC2?
No
Check C38, R26, R24, IC2.
Yes
Can you confirm output waveform at Pin 1, 2 of CN7?
No
Check CN7, loudspeaker.

Send


Can you confirm output waveform at Pin 1 of CN6?
No
Check CN6,R19, R20, C29.
Yes
Can you confirm output waveform at Pin 3 of IC4?
No
Check C37, R28, R32, C41.
Yes
Can you confirm communication waveform at Pin 52 of IC5?
No
Check R35, R49, R50.

Note:
Refer to (7)~(8) of WAVEFORM () for waveform.

8.6. DXDP-DPT DOES NOT WORK


Is the voltage between pins 3 and 4 of JK3 at 30 to 40V?
No
Check Q10, Q14, Q15, R88, R89, R97, R98, R99, R100, R101, R117, L8, L9 and JK3.
Yes
Can you confirm communication waveform at Pin 61 of IC5?
No
Check Q8, Q9, R83~R86, R92, R93, R95, R96, C98~C100 and C104.
Yes
Does Pin 62 of IC5 have 1.5V?
Does Pin 60 of IC5 have 2.3V?
No
Check R65～R67.
Yes
Does DXDP-DPT operates?
No
Check DXDP-DPT.

Note:
Refer to (9) of WAVEFORM () for waveform.

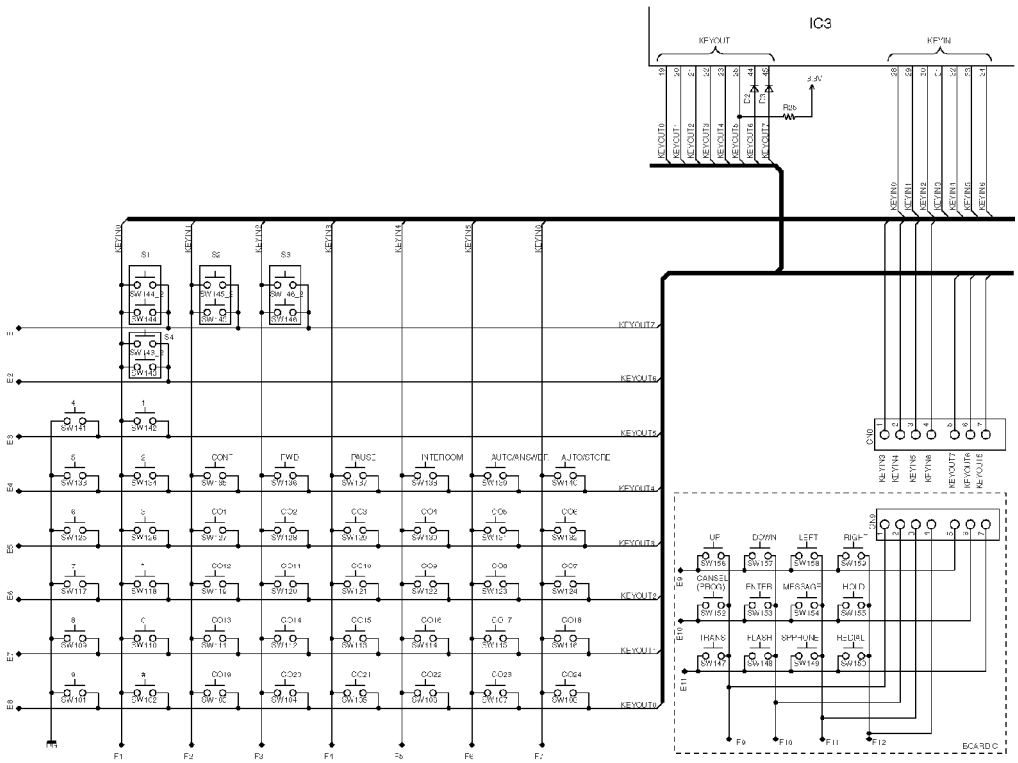
9. BLOCK DIAGRAM

10. CIRCUIT OPERATIONS

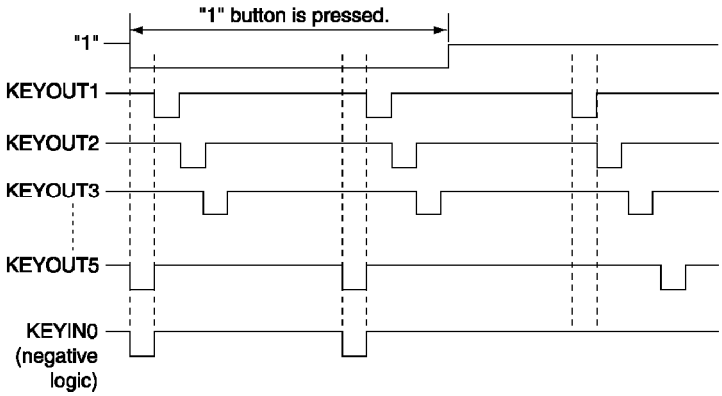
10.1. KEY INPUT CONTROL CIRCUIT

The key data is under the matrix control by 19 to 23, 25, 44, 45(KEYOUT) and 28 to 35(KEYIN) of IC3.
The key information outputted from KEYOUT is inputted into KEYIN, when the key is pressed.

CIRCUIT DIAGRAM



KEY INPUT CONTROL TIMING CHART



When "KEYOUT5" is low status and the "1" button is pressed, the key-in information is read.

10.2. LCD CIRCUIT

LCD data are outputted from pin 57, 58, 59,10 and 12 of IC3 to LCD module.

IC8 is an inverter for a charge pump circuit which outputs the voltage necessary for LCD driving.

- 4.5V from -1.2V generated at IC8 as a reference to +3.3V of the power supply voltage is pressurized four times in the LCD module and used as LCD driving voltage (approx. 18V).

LCD contrast is set by electronic volume. in the LCD module.

The type of the LCD module is distinguished by pin 62 of IC3.

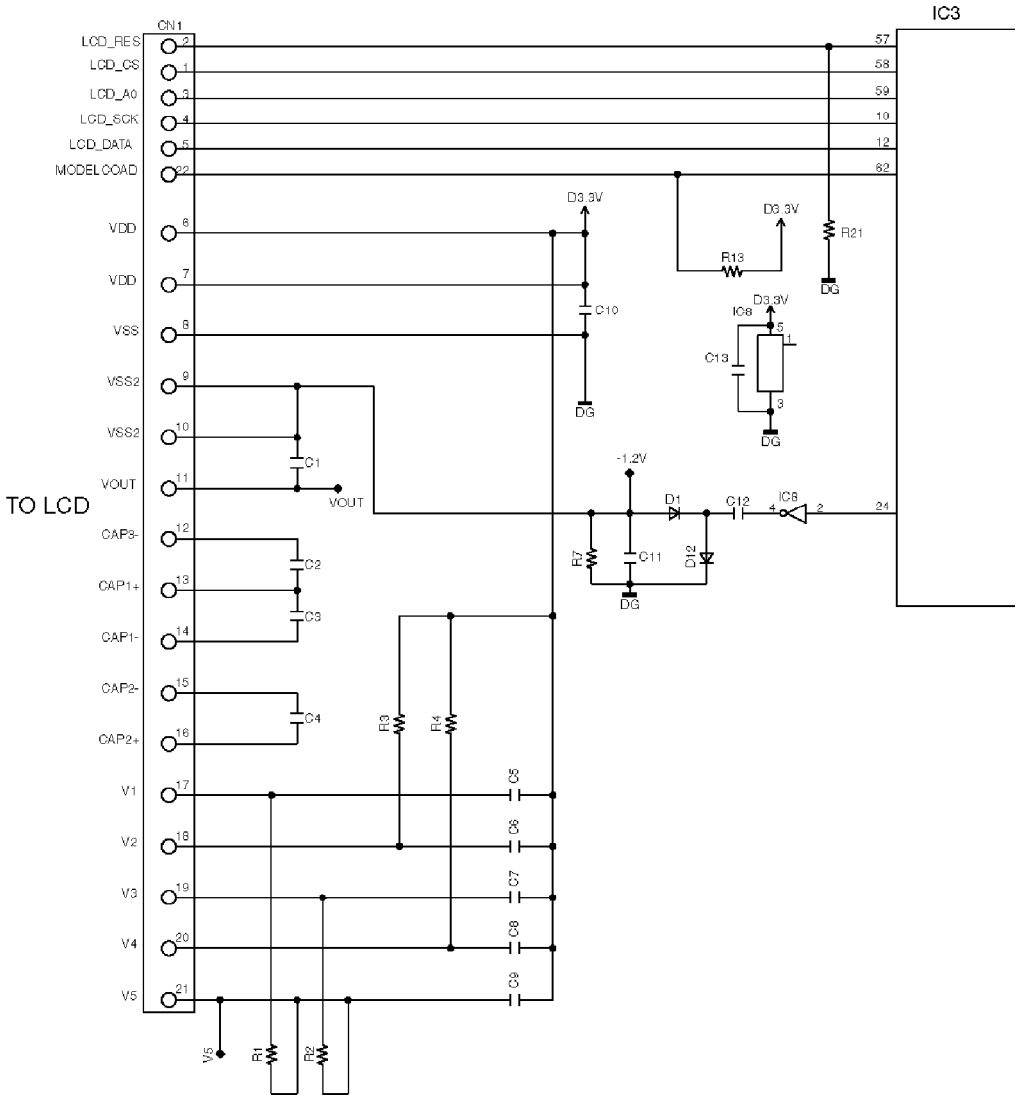
	Pin 62 of IC3	
L	KX-T7636	24 digits * 6 lines
H	KX-T7630/KX-T7633	24 digits * 3 lines

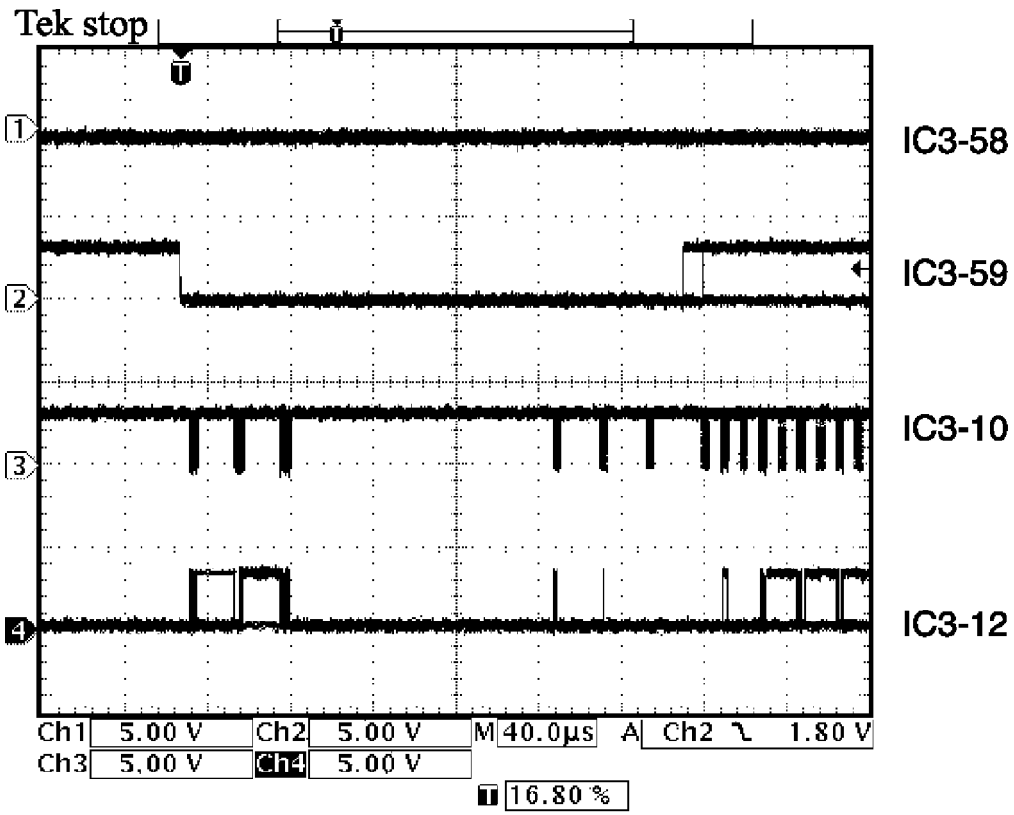
The lighting of the backlight is controlled by Q1.

- IC3-pin 56H → Q1-ON → Backlight ON

- IC3-pin 56L → Q1-OFF → Backlight OFF

CIRCUIT DIAGRAM



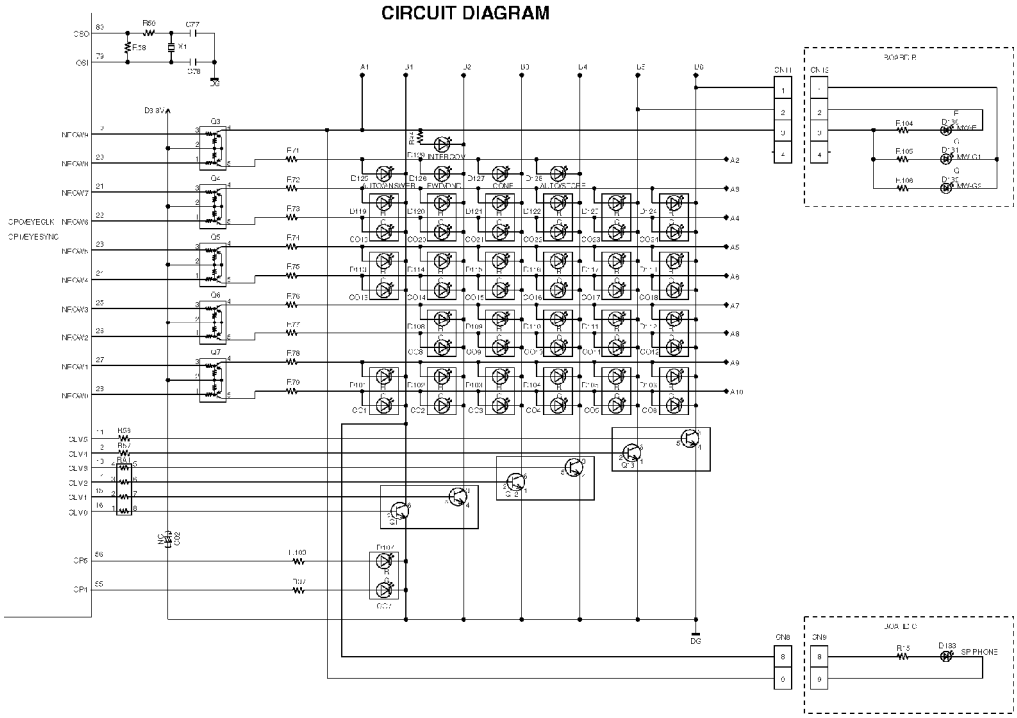


10.3. LED CIRCUIT

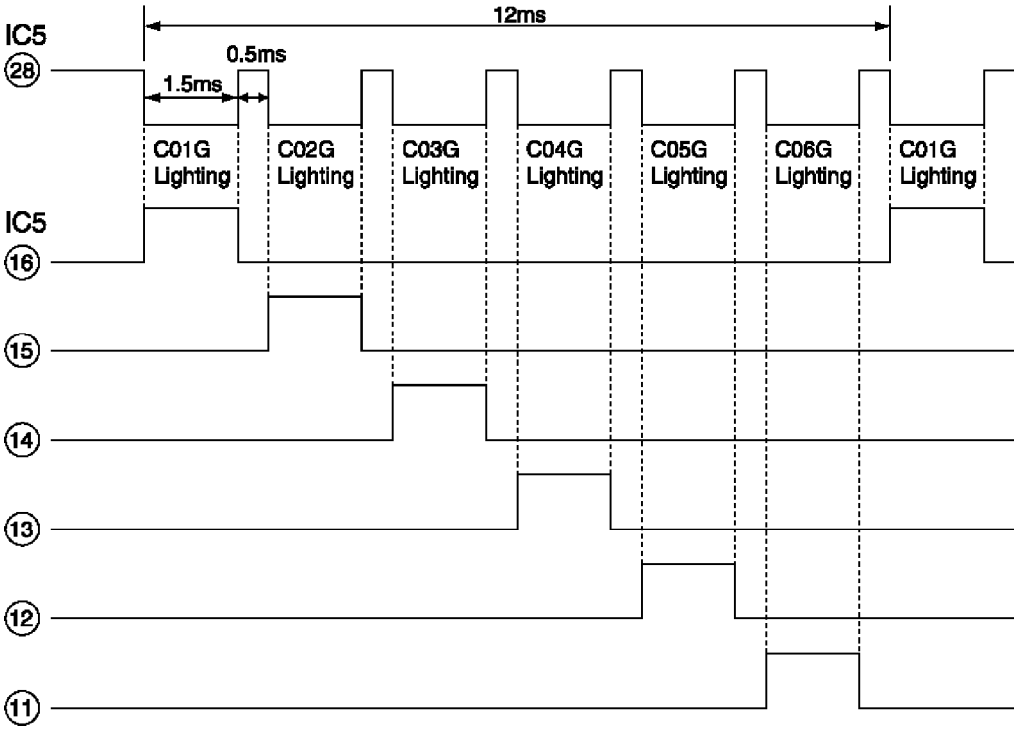
The lighting of the LED is controlled by pin 19 to 28 (Row) and pin 11 to 16 (Colum) of IC5.
The LED lights up in a dynamic lighting system.
The duty ratio is 1/8(ON time 1.5mS).
Only D107 of LED for CO7 lights up in a static lighting system.

- IC5-pin 55 H : CO7 Green ON
- IC5-pin 55 L : CO7 Green OFF
- IC5-pin 56 H : CO7 Red ON
- IC5-pin 56 L : CO7 Red OFF

CIRCUIT DIAGRAM



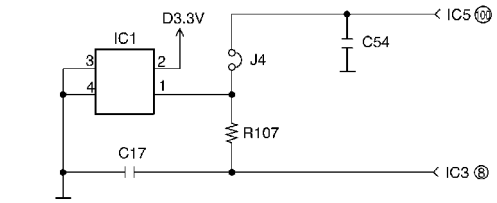
LED DYNAMIC LIGHTING

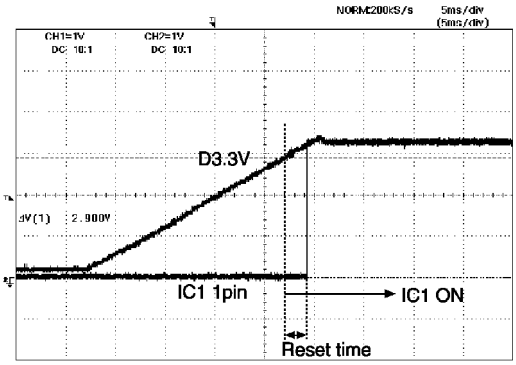


10.4. RESET CIRCUIT

Reset Signal is outputted from IC1 and inputted into IC3 and IC5 at the connection of TEL cord.

Circuit Diagram





10.5. POWER SUPPLY CIRCUIT

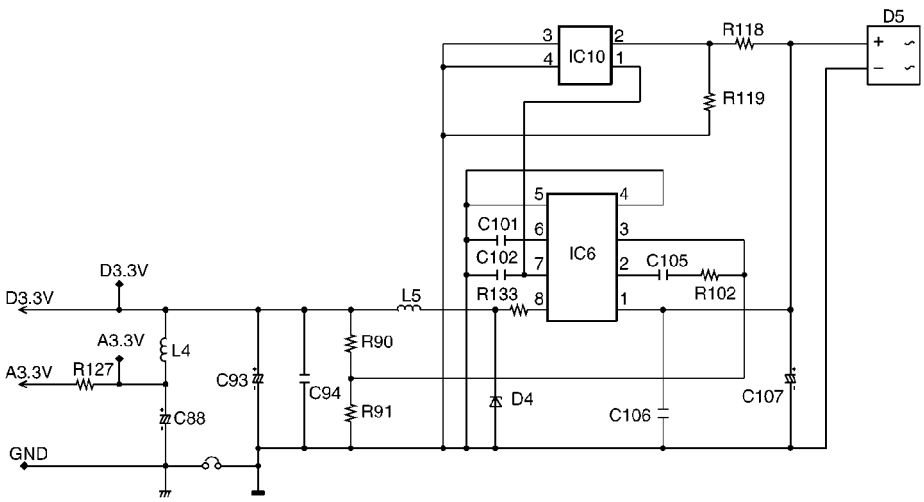
This circuit converts the voltage supplied from PBX into the power supply voltage of +3.3V by IC6(Switching Regulator IC).

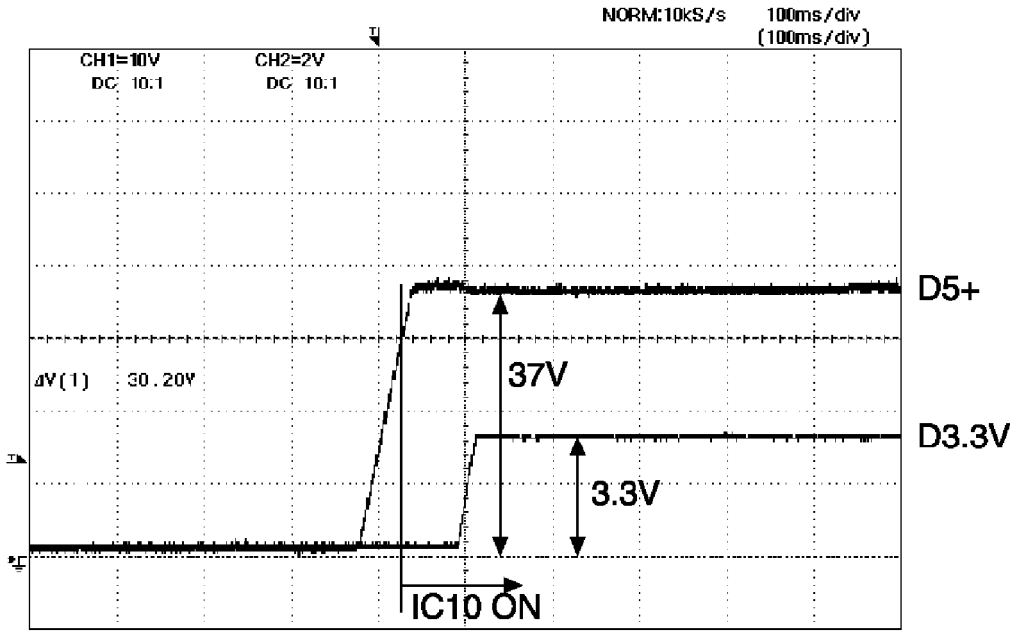
IC10 controls the power supply circuit as below to turn IC6 on in low consumption current at starting up.

- Input Voltage approx. 30V or less → IC10-pin 1 L → IC6 OFF

- Input Voltage approx. 30V or more → IC10-pin 1 HiZ → IC6ON

Circuit Diagram





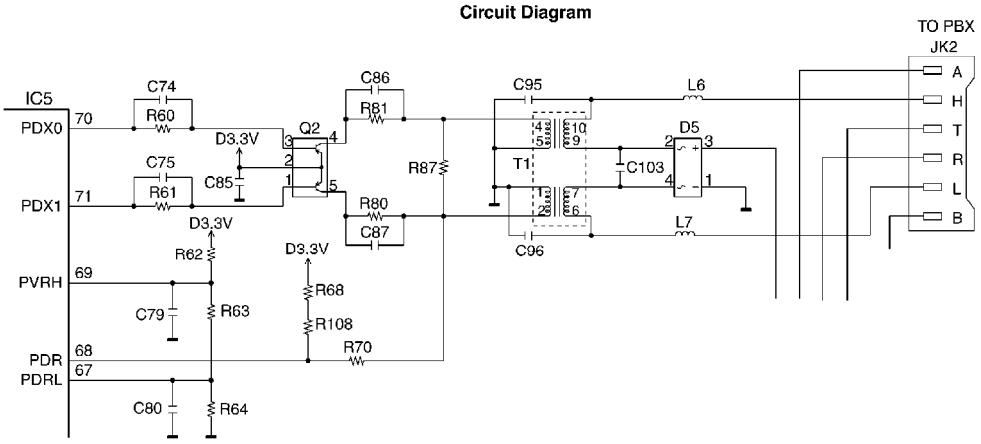
10.6. DATA COMMUNICATION

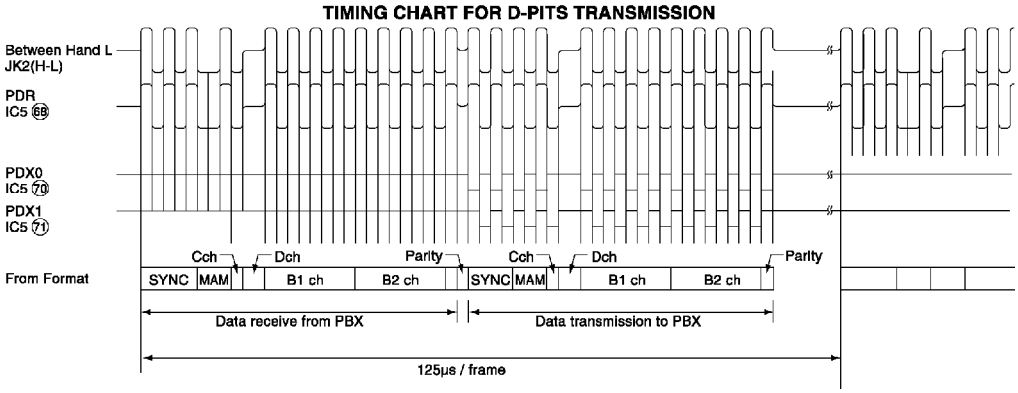
Function

The data communication circuit serves the following functions:
Information exchanger between PBX and proprietary telephone, key input information as well as data for the LED control, LCD control, voice data, etc. This information is continuously exchanged at all times.

Circuit Operation

The data received from PBX is inputted to the comparator(pin 68) built in IC5 through Pulse Trans T1. The threshold voltage of the comparator is determined by R62 to 64 and inputted to pin 67 and 29.
The data to PBX is outputted from pin 70 and 71 of IC5, drives T1 by Transistor Q2 and transmitted.





10.7. DXDP COMMUNICATION

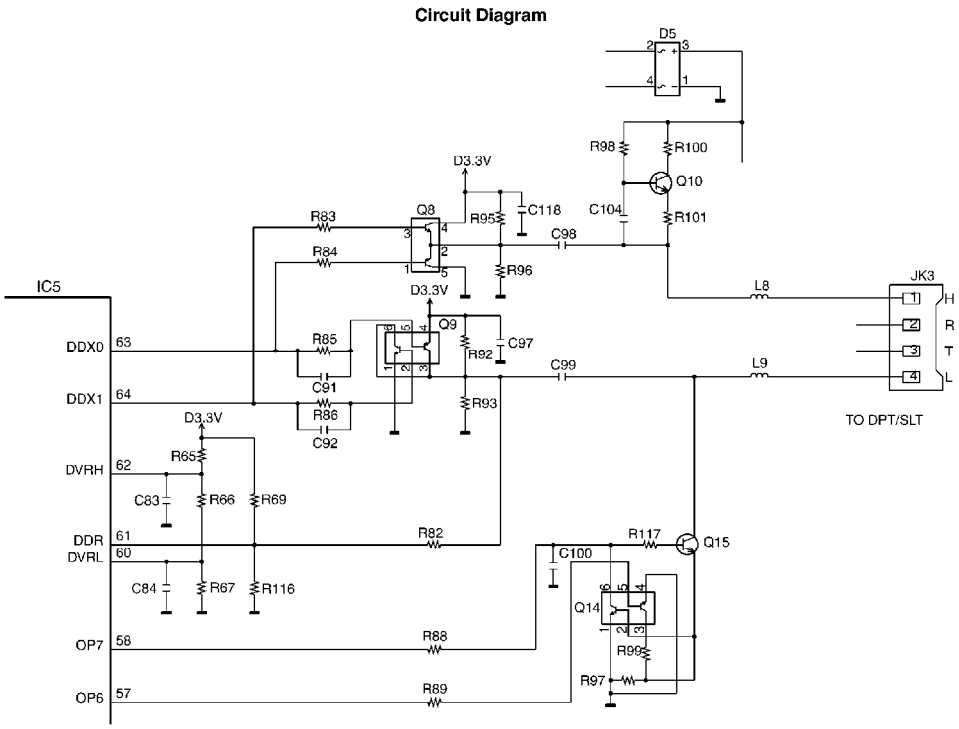
Function

This circuit performs the same communication as DXDP-compatible DPT and PBX communication connected with DXDP port.

Circuit Operation

The data to Slave DPT is outputted from pin 63 and 64 of IC5 and sent by Transistor Q8 and Q9.
The data from Slave DPT is inputted to the comparator(pin 61) built in IC5.
The threshold voltage of the comparator is determined by R65 to 67 and inputted to pin 60 and 62.
Also, the supplying power to Slave DPT is controlled by a constant current circuit of Q15 as below.

- IC5-pin 58 as H : Constant current circuit ON
- IC5-pin 58 as L : Constant current circuit OFF
- IC5-pin 57 as H : 40mA Feeding (Slave DPT usually)
- IC5-pin 57 as L : 10mA Feeding (Slave DPT at starting up only)



10.8. ANALOG CIRCUIT

This circuit performs the setting of the call path/vol. adjustment in each call mode by DSP built in IC5.
The audio gain of each call is determined by download data from PBX.

- IC5 sends each audio data to IC4 by PCM interface.
- IC5 receives each audio data from IC4 by PCM interface.

1. Handset Call

Transmitting signal is inputted from handset microphone and amplified by IC4 built-in Amp → A/D conversion → inputted to IC5 in PCM data → Gain adjustment by DSP of IC5 → then sent to PBX.
Transmitting signal inputted from handset microphone is controlled by transmission switching SW IC7 as below.
IC3-pin 52 L : Handset Call
(IC3-pin 52 H : Headset Call)
Receiving signal inputted from PBX is → Gain adjustment by DSP of IC5 → D/A conversion after the input to IC4 in PCM data → IC4 built-in Amp output → outputted from IC5 built-in Amp to handset.

2. Headset Call

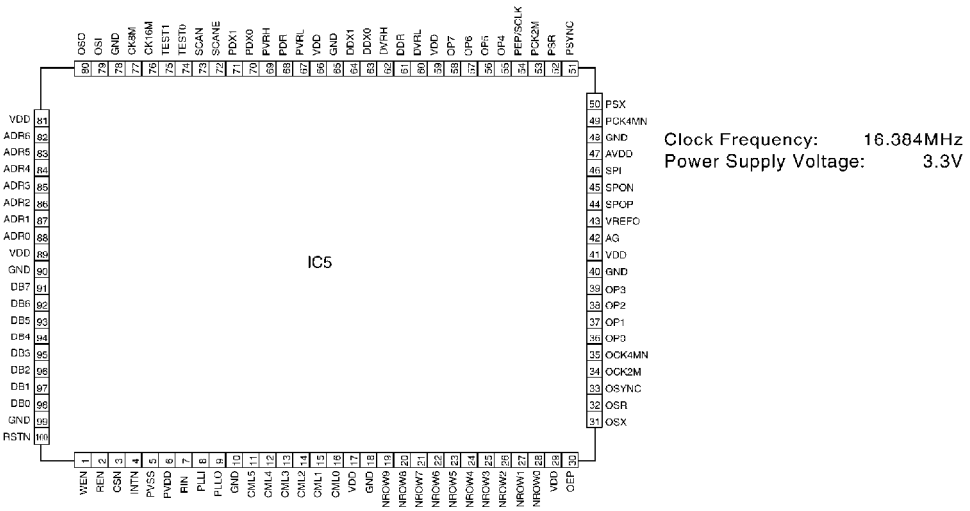
Transmitting signal is inputted from headset microphone and amplified by IC4 built-in Amp → A/D conversion → inputted to IC5 in

PCM data → Gain adjustment by DSP of IC5 → then sent to PBX.
Transmitting signal inputted from headset microphone is controlled by transmission switching SW IC7 as below.
IC3-pin 52 H : Headset Call
(IC3-pin 52 L : Handset Call)
Receiving signal inputted from PBX is → Gain adjustment by DSP of IC5 → D/A conversion after the input to IC4 in PCM data → IC4 built-in Amp output → outputted from Q16(transistor for buffer) to headset.

3. **Speakerphone Call**
   Speakerphone call realizes all double-call by DSP(echo canceller) built in IC5. For a call in the most appropriate condition, DSP checks voice level of the calling party, acousticity in a room, voice level of the other party and state of the line of contact, and cancels echo in transmitting and receiving at the start of calling. It operates in a half double-call state in a few seconds for the check.
   Transmitting signal is inputted from SP phone mic. and amplified by IC4 built-in Amp → A/D conversion → inputted to IC5 in PCM data → Gain adjustment by DSP of IC5, then sent to PBX through echo canceller.
   Receiving signal inputted from PBX is → Gain adjustment by DSP through echo canceller of IC5 → inputted to IC4 in PCM data → D/A conversion → IC4 built-in Amp output → outputted from IC2(Amp) to speaker.
   Power Amp IC2 is controlled as follows;
   IC3-pin 51 L → IC2-ON
   IC3-pin 51 H → IC2-OFF

11. IC DATA

11.1. IC5 (ASIC)

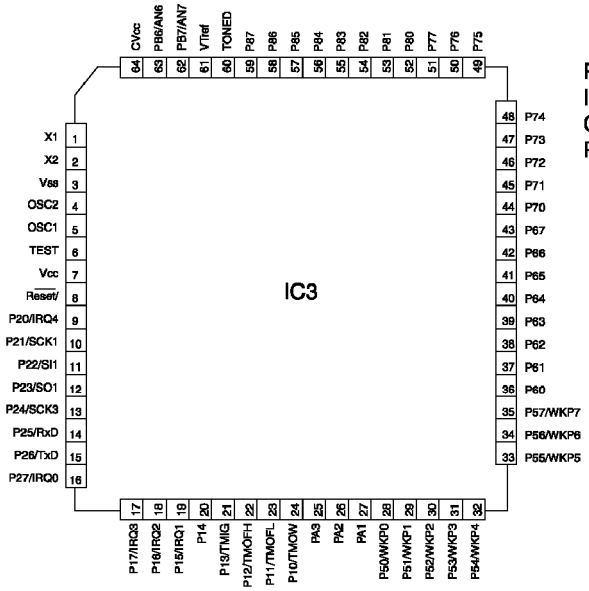


Pin	No.	I/O Setting	Pull-up Processing	Contents of Control	Remark
1	WEN	in	Built-in	Write signal	
2	REN	in	Built-in	Read signal	
3	CSN	in	Built-in	Chip select input	
4	INTN	out	-	Interrupt output	
5	PVSS	-	-	Ground for DSP PLL	
6	PVDD	-	-	Power supply for DSP PLL	
7	RIN	in	-	DSP PLL adjustment	
8	PLLI	in	-	DSP PLL adjustment	
9	PLLO	out	-	DSP PLL adjustment	
10	GND	-	-	Digital ground	
11	CML5	out	-	LED column drive 5	
12	CML4	out	-	LED column drive 4	
13	CML3	out	-	LED column drive 3	
14	CML2	out	-	LED column drive 2	
15	CML1	out	-	LED column drive 1	
16	CML0	out	-	LED column drive 0	
17	VDD	-	-	Digital power supply	
18	GND	-	-	Digital ground	
19	NROW9	out	-	LED row drive 9	
20	NROW8	out	-	LED row drive 8	
21	NROW7	out	-	LED row drive 7	
22	NROW6	out	-	LED row drive 6	
23	NROW5	out	-	LED row drive 5	
24	NROW4	out	-	LED row drive 4	
25	NROW3	out	-	LED row drive 3	
26	NROW2	out	-	LED row drive 2	
27	NROW1	out	-	LED row drive 1	
28	NROW0	out	-	LED row drive 0	
29	VDD	-	-	Digital power supply	

Pin	No.	I/O Setting	Pull-up Processing	Contents of Control	Remark
30	OEP	tri	-	Channel pulse	
31	OSX	tri	-	2.048MHz serial data output	
32	OSR	in	Built-in	2.048MHz serial data input	
33	OSYNC	bi	-	8Khz frame synchronized signal	
34	OCK2M	bi	-	2.048MHz serial clock (Schmitt)	
35	OCK4MN	tri	-	4.096MHz serial clock	
36	OP0	out	-	Optional reset output 1	
37	OP1	out	-	Optional reset output 2	
38	OP2	out	-	Codec serial data output	
39	OP3	out	-	Codec serial clock output	
40	GND	-	-	Digital ground	
41	VDD	-	-	Digital power supply	
42	AG	-	-	Analog ground (For D/A)	
43	VREFO	out	-	Analog reference voltage	
44	SPOP	out	-	+ Side of output for handset SP Amp	
45	SPON	out	-	- Side of output for handset SP Amp	
46	SPI	in	-	Input for handset SP	
47	AVDD	-	-	Digital power supply	
48	GND	-	-	Digital ground	
49	PCK4MN	tri	-	4.096MHz serial clock	
50	PSX	tri	-	2.048MHz serial data output	
51	PSYNC	tri	-	8Khz frame synchronized signal	
52	PSR	in	Built-in	2.048MHz serial data Input	
53	PCK2M	tri	-	2.048MHz serial clock	
54	PEP/SCLK	tri	-	Channel pulse/Serial clock	
55	OP4	out	-	CO7 green LED control port	H:LEDON
56	OP5	out	-	CO7 red LED control port	H:LEDON
57	OP6	out	-	DXDP constant current switching port	H:40mA, L:20mA
58	OP7	out	-	DXDP constant current control port	H:Constant current circuit ON
59	VDD	-	-	Digital power supply	
60	DVRL	in	-	Reference voltage for comparator (For DXDP)	
61	DDR	in	-	Receive data input (For DXDP)	
62	DVRH	in	-	Reference voltage for comparator (For DXDP)	
63	DDX0	out	-	Send data output (For DXDP)	
64	DDX1	tri	-	Send data output (For DXDP)	

Pin	No.	I/O Setting	Pull-up Processing	Contents of Control	Remark
65	GND	-	-	Digital ground	
66	VDD	-	-	Digital power supply	
67	PVRL	in	-	Reference voltage for comparator	
68	PDR	in	-	Receive data input	
69	PVRH	in	-	Reference voltage for comparator	
70	PDX0	out	-	Send data output	
71	PDX1	out	-	Send data output	
72	SCANE	in	Built-in(down)	Scan test enable pin	
73	SCAN	in	Built-in(down)	Scan test enable pin	
74	TEST0	in	-	Test mode pin 0	
75	TEST1	in	-	Test mode pin 1	
76	CK16M	tri	-	16Mhz clock (For Test)	
77	CK8M	tri	-	8MHz clock (For CPU)	
78	GND	-	-	Digital ground	
79	OSI	in	-	Crystal oscillator input	
80	OSO	out	-	Crystal oscillator output	
81	VDD	-	-	Digital power supply	
82	ADR6	in	Built-in	Address 6	
83	ADR5	in	Built-in	Address 5	
84	ADR4	in	Built-in	Address 4	
85	ADR3	in	Built-in	Address 3	
86	ADR2	in	Built-in	Address 2	
87	ADR1	in	Built-in	Address 1	
88	ADR0	in	Built-in	Address 0	
89	VDD	-	-	Digital power supply	
90	GND	-	-	Digital ground	
91	DB7	bi	Built-in	Data 7	
92	DB6	bi	Built-in	Data 6	
93	DB5	bi	Built-in	Data 5	
94	DB4	bi	Built-in	Data 4	
95	DB3	bi	Built-in	Data 3	
96	DB2	bi	Built-in	Data 2	
97	DB1	bi	Built-in	Data 1	
98	DB0	bi	Built-in	Data 0	
99	GND	-	-	Digital ground	
100	RSTN	in	-	Reset input (Schmidt)	

11.2. IC3 (CPU)



Program ROM:	60kbyte(8bit)
Internal RAM:	2kbyte
Clock Frequency:	8.192MHz
Power Supply Voltage:	3.3V

Pin	No.	I/O Setting	Pull-up Processing	Contents of Control	Remark
1	X1	I	-	not inuse	Connecting to Vcc
2	X2	O	-	not inuse	Open
3	Vss		-	GND	
4	OSC2	O	-		Open
5	OSC1	I	-	8 MHz clock	from 8.192MHz ASIC
6	TEST	I	-	not inuse	Connecting to Vcc
7	Vcc		-	Power terminal	+3.3V
8	Reset/	I	-	Reset input	Low active
9	P20/IRQ4	I	Built-in	OP-Rx-Rdy	
10	P21/SCK1	O	-	not inuse	
11	P22/SI1	I	Built-in	OP_Busy/	Low active
12	P23/SO1	O	-	not inuse	
13	P24/SCK3	O	Built-in	OP_SCK	
14	P25/RxD	I	Built-in	OP_RXD	
15	P26/TxD	O	-	OP_TXD	
16	P27/IRQ0	I	(out)	OP-Tx-En	
17	P17/IRQ3	I	Built-in	Hook detection/	L:OFF-HOOK
18	P16/IRQ2	I	Built-in	GA_RxINT/	Low active
19	P15/IRQ1	I/O	Built-in	KEYOUT0	
20	P14	I/O	Built-in	KEYOUT1	
21	P13/TMIG	I/O	Built-in	KEYOUT2	
22	P12/TMOFH	I/O	Built-in	KEYOUT3	
23	P11/TMOFL	I/O	Built-in	KEYOUT4	
24	P10/TMOW	O	-	not inuse	
25	PA3	I/O	(out)	KEYOUT5	
26	PA2	O	-	REN/	Low active
27	PA1	O	-	WEN/	Low active
28	P50/WKP0	I	Built-in	KEY-IN0	

29	P51/WKP1	I	Built-in	KEY-IN1	
30	P52/WKP2	I	Built-in	KEY-IN2	
31	P53/WKP3	I	Built-in	KEY-IN3	
32	P54/WKP4	I	Built-in	KEY-IN4	
33	P55/WKP5	I	Built-in	KEY-IN5	
34	P56/WKP6	I	Built-in	KEY-IN6	
35	P57/WKP7	O	Built-in	not in use	
36	P60	I/O	Built-in	DB0	
37	P61	I/O	Built-in	DB1	
38	P62	I/O	Built-in	DB2	
39	P63	I/O	Built-in	DB3	
40	P64	I/O	Built-in	DB4	
41	P65	I/O	Built-in	DB5	
42	P66	I/O	Built-in	DB6	
43	P67	I/O	Built-in	DB7	
44	P70	O	-	AD0/KEY-OUT6	
45	P71	O	-	AD1/KEY-OUT7	
46	P72	O	-	AD2	
47	P73	O	-	AD3	
48	P74	O	-	AD4	
49	P75	O	-	AD5	
50	P76	O	-	AD6	
51	P77	O	-	SP_AMP OFF	H:OFF L:ON
52	P80	O	-	MIC switch	L: Hand set, H: Head set
53	P81	O	-	EEPROM CLK	Clock output
54	P82	I/O	(out)	EEPROM DATA	Serial data input/ output
55	P83	O	-	CODEC CS	
56	P84	I → O	(out)	Model distinction 1	After confirmation of H, the pin switches to an output port.
57	P85	I	out(down)	Ringer position detection	H:ON L:OFF
58	P86	O	-	not in use	
59	P87	O	-	not in use	
60	TONED	O	-	not in use	
61	VTref	I	-	not in use	
62	PB7/AN7	I	(out)	Model distinction 2(A/D)	0.5*Vcc
63	PB6/AN6	I	(out)	Option detection	
64	CVcc	I	-	Internal electrical power source	

12. TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES

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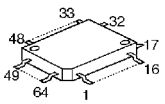
<td> 

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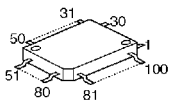
<td> 

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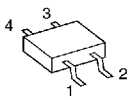
<td> 

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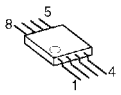
<td> 

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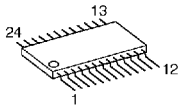
<td> 

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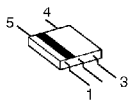
<td colspan="2"> 

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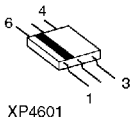
<td> 

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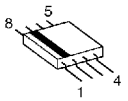
<td> 

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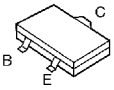
<td> 

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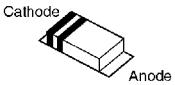
<td> 

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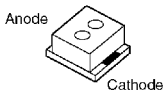
<td> 

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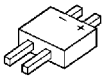
<td> 
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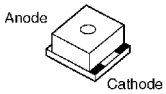
<td> 

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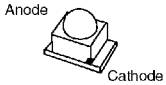
<td> 

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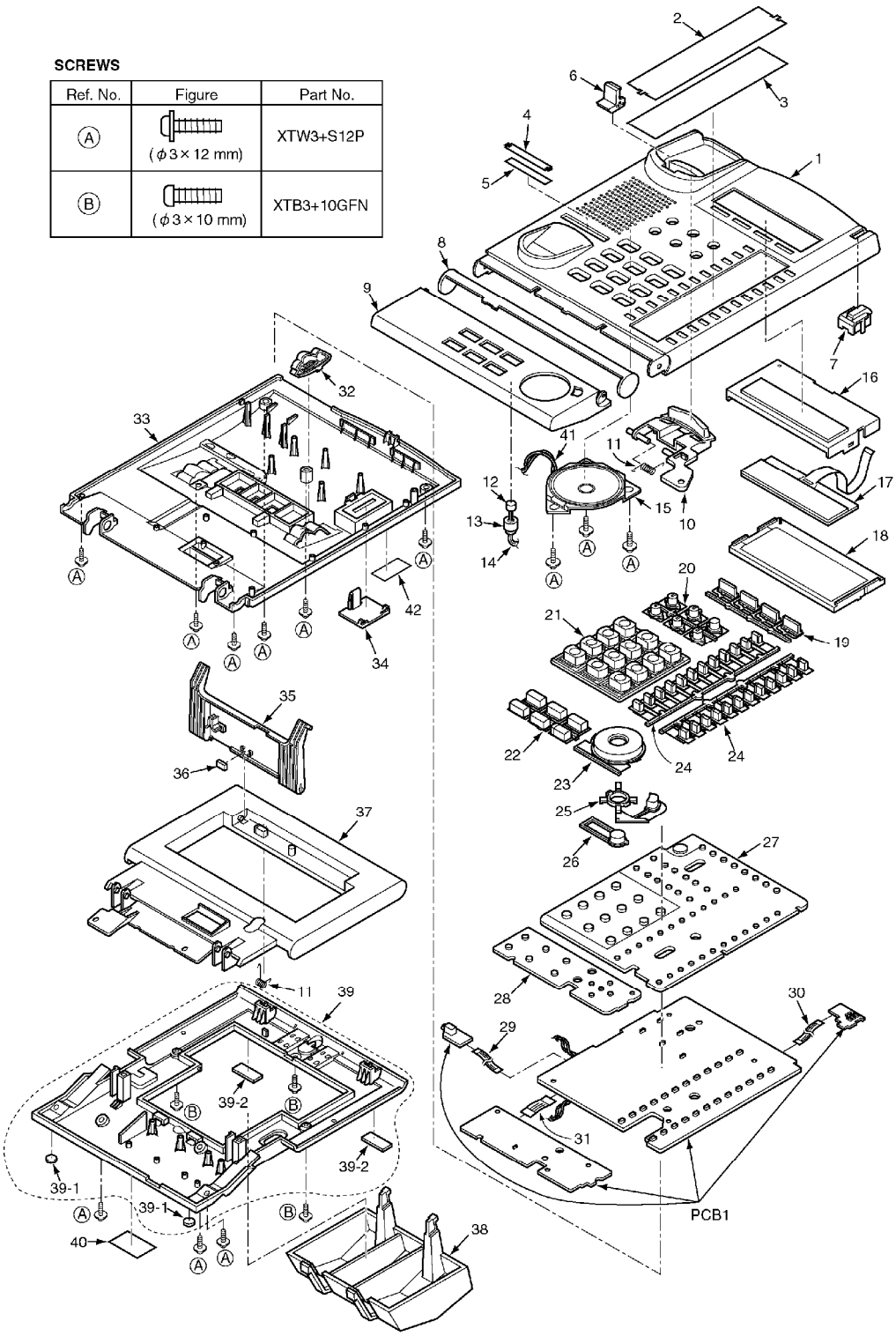
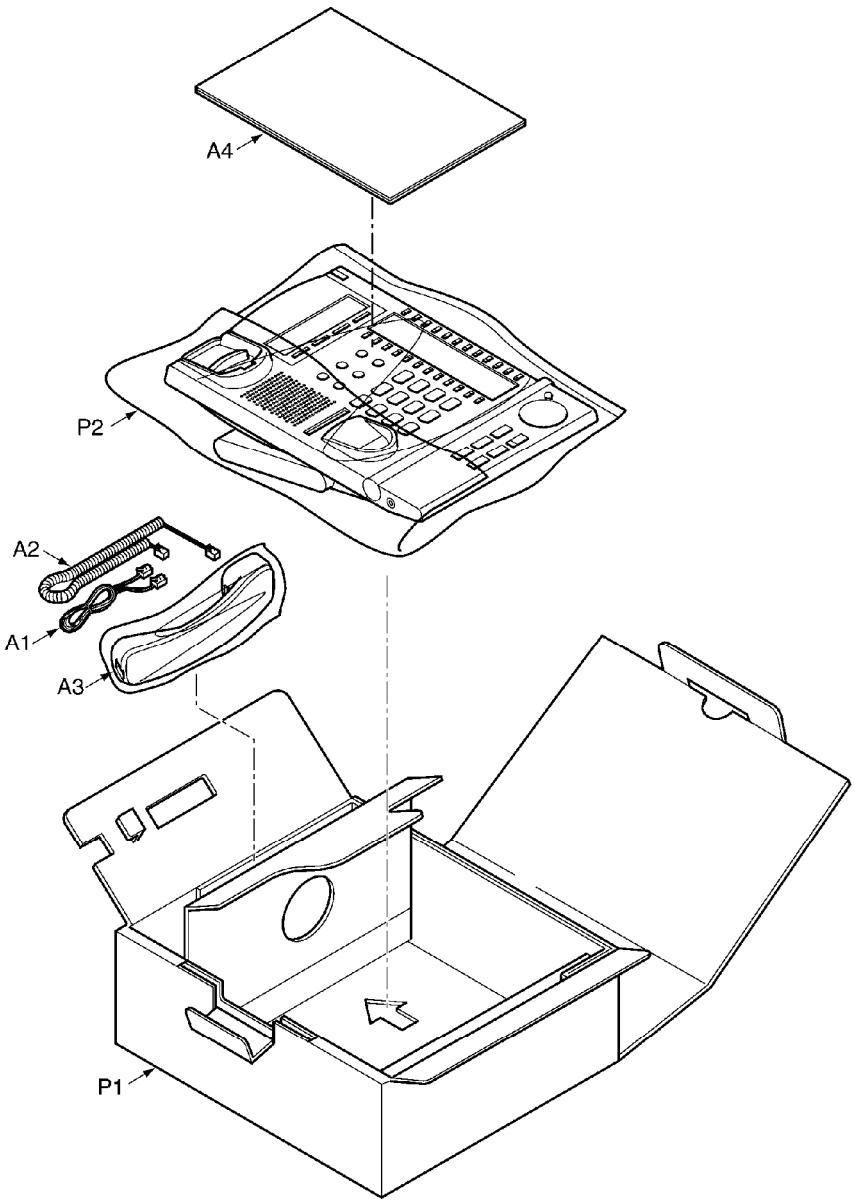
13. CABINET AND ELECTRICAL PARTS LOCATION

SCREWS

Ref. No.	Figure	Part No.
Ⓐ	(ϕ 3 × 12 mm)	XTW3+S12P
Ⓑ	(ϕ 3 × 10 mm)	XTB3+10GFN



14. ACCESSORIES AND PACKING MATERIALS



15. REPLACEMENT PARTS LIST

1. RTL (Retention Time Limited)

Note:

The marking (RTL) indicates that the Retention Time is limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing parts and

product retention.
After the end of this period, the assembly will no longer be available.

2. **Important safety notice**
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.
3. **The S mark means the part is one of some identical parts. For that reason, it may be different from the installed part.**
4. **ISO code (Example: ABS-HB) of the remarks column shows quality of the material and a flame resisting grade about plastics.**
5. **RESISTORS & CAPACITORS**
   Unless otherwise specified;
   All resistors are in ohms (Ω) K=1000 Ω , M=1000k Ω
   All capacitors are in MICRO FARADS (μ F) P= μ μ F
   ***Type & Wattage of Resistor**

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

15.1. CABINET AND ELECTRICAL PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	PSKM1094X1	CABINET BODY	ABS-HB
2	PSHR1251Z	TRANSPARENT PLATE (LARGE)	
3	PSGD1061Z	TEL. CARD (LARGE)	
4	PQHR576Z	TRANSPARENT PLATE (SMALL)	
5	PQHP532X	TEL. CARD (SMALL)	
6	PQKE10070Z3	LID, HOOK KNOB	ABS-HB
7	PSGP1075Z	COVER, LED LENS	ABS-HB
8	PSKK1038Z2	LID, SHAFT COVER	ABS-HB
9	PSKM1084Z1	CABINET BODY, APRON	ABS-HB
10	PSBH1006Z1	PUSH BUTTON, HOOK	ABS-HB
11	PSUS1018Z	TORSION SPRING	
12	PQJM122Z	BUILTIN-MICROPHONE	
13	PSHG1216Z	SPACER, MIC RUBBER	
14	PSJS02P14Z	CONNECTOR, 2 PIN	
15	PQAS57P03Z	SPEAKER	
16	PSGP1077Z	COVER, LCD HOLDER	PC-HB
17	L5DAALC00001	LIQUID CRYSTAL DISPLAY	
18	PSHR1259Z	GUIDE, BACK LIGHT HOLDER	
19	PSBX1092Z1	PUSH BUTTON, SOFT	ABS-HB
20	PSBX1091Z1	PUSH BUTTON, FUNCTION	ABS-HB
21	PSBX1089Z1	PUSH BUTTON, DIAL	ABS-HB
22	PSYX1003Z1	PUSH BUTTON, 6 KEY	ABS-HB
23	PSBC1027Z1	PUSH BUTTON, CURSOR	ABS-HB
24	PSBX1090Z1	PUSH BUTTON, CO LINE	ABS-HB
25	PSBC1029Z1	PUSH BUTTON, CANCEL	ABS-HB
26	PSBC1026Z1	PUSH BUTTON, ENTER	ABS-HB
27	PSSX1029Z	KEYBOARD SWITCH, MAIN PART	
28	PSSX1019Z	KEYBOARD SWITCH, APRON PART	
29	PSJE1031Z	LEAD WIRE	
30	PSJE1030Z	LEAD WIRE	
31	PSJE1032Z	LEAD WIRE	
32	PSHR1236Z	GUIDE	POM-HB
33	PSKF1054Z1	LOWER CABINET COVER	ABS-HB
34	PSKK1039Z1	LID, CONNECTOR COVER	ABS-HB
35	PSBE1003Z1	ADJUST STAND	ABS-HB
36	PSHG1233Z	SPACER, RUBBER	
37	PSKM1085Z1	CABINET BODY, BASE	ABS-HB
38	PSKL1014Z1	STAND	PS-HB
39	PSYF1036Z1	CABINET COVER, BASE ASS'Y	PS-HB
39-1	PSHA1010Z	RUBBER PARTS, FOOT	
39-2	PSHA1011Z	RUBBER PARTS, CUSHION	
40	PSGT2200Z	NAME PLATE	
41	PSJS02P15Z	CONNECTOR, 2 PIN	
42	PSHX1200Z	COVER, SHEET	

15.2. ACCESSORIES AND PACKING MATERIALS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PSJA1082Z	CORD, TELEPHONE	S
A2	PSJA1043Z	CORD, HANDSET	S
A3	PQJXF0502Z	HANDSET	
A4	PSQX2508Z	INSTRUCTION BOOK	
		(QUICK REFERENCE GUIDE)	
P1	PSZKT7630AL	GIFT BOX ASS'Y	
P2	XZB34X48A05	PROTECTION COVER	

15.3. MAIN AND SUB BOARDS PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PSWPT7630AL	P.C.BOARD ASS'Y (RTL)	
		(ICs)	
IC1	C0EBF0000123	IC	
IC2	C0ABGA000023	IC	
IC3	C2BBGF000354	IC	
IC4	C1CB00001408	IC	
IC5	C1CB00001383	IC	
IC6	C0DBAGG00006	IC	
IC7	PQVITC4W53FU	IC	
IC8	PQVITC7SH04F	IC	S
IC9	C3EBAC000002	IC	
IC10	PQVIC61CN30N	IC	S
		(TRANSISTORS)	
Q2	PSVTUMS1NTR	TRANSISTOR(SI)	S
Q3	B1GHCFCJ0001	TRANSISTOR(SI)	
Q4	B1GHCFEM0001	TRANSISTOR(SI)	
Q5	B1GHCFEM0001	TRANSISTOR(SI)	
Q6	B1GHCFEM0001	TRANSISTOR(SI)	
Q7	B1GHCFEM0001	TRANSISTOR(SI)	
Q8	B1HFCFA00008	TRANSISTOR(SI)	
Q9	XP4601	TRANSISTOR(SI)	S
Q10	2SC4081Q	TRANSISTOR(SI)	S
Q11	B1HBGBA00001	TRANSISTOR(SI)	
Q12	B1HBGBA00001	TRANSISTOR(SI)	
Q13	B1HBGBA00001	TRANSISTOR(SI)	
Q14	PSVTUMX1NTN	TRANSISTOR(SI)	
Q15	B1ABMF000004	TRANSISTOR(SI)	
Q16	2SC4081Q	TRANSISTOR(SI)	S
		(DIODES)	
D1	1SS355	DIODE(SI)	S
D2	1SS355	DIODE(SI)	S
D3	1SS355	DIODE(SI)	S
D4	B0JCMG000007	DIODE(SI)	
D5	PQVDS1ZB60F1	DIODE(SI)	S
D12	1SS355	DIODE(SI)	S
D101	PQVDBRPY1204	LED	S
D102	PQVDBRPY1204	LED	S

Ref. No.	Part No.	Part Name & Description	Remarks
D103	PQVDBRPY1204	LED	S
D104	PQVDBRPY1204	LED	S
D105	PQVDBRPY1204	LED	S
D106	PQVDBRPY1204	LED	S
D107	PQVDBRPY1204	LED	S
D108	PQVDBRPY1204	LED	S
D109	PQVDBRPY1204	LED	S
D110	PQVDBRPY1204	LED	S
D111	PQVDBRPY1204	LED	S
D112	PQVDBRPY1204	LED	S
D113	PQVDBRPY1204	LED	S
D114	PQVDBRPY1204	LED	S
D115	PQVDBRPY1204	LED	S
D116	PQVDBRPY1204	LED	S
D117	PQVDBRPY1204	LED	S
D118	PQVDBRPY1204	LED	S
D119	PQVDBRPY1204	LED	S
D120	PQVDBRPY1204	LED	S
D121	PQVDBRPY1204	LED	S
D122	PQVDBRPY1204	LED	S
D123	PQVDBRPY1204	LED	S
D124	PQVDBRPY1204	LED	S
D125	PSVD1SRCT	LED	S
D126	PSVD1SRCT	LED	S
D127	PSVD1SRCT	LED	S
D128	PSVD1SRCT	LED	S
D129	PSVD1VGCT	LED	S
D130	B3AAB0000111	DIODE(SI)	
D131	B3ABB0000146	DIODE(SI)	
D132	B3ABB0000146	DIODE(SI)	
D133	PSVD1SRCT	LED	S
		(CONNECTORS)	
CN1	K1MN22A00007	CONNECTOR, 22 PIN	
CN4	K1MN04B00052	CONNECTOR, 4 PIN	
CN5	K1MN04B00052	CONNECTOR, 4 PIN	
CN6	PSJP02A05Z	CONNECTOR, 2 PIN	S
CN7	PSJP02A05Z	CONNECTOR, 2 PIN	S
CN8	K1MN09B00059	CONNECTOR, 9 PIN	
CN9	K1MN09B00059	CONNECTOR, 9 PIN	
CN11	K1MN04B00052	CONNECTOR, 4 PIN	
CN12	K1MN04B00052	CONNECTOR, 4 PIN	
CN13	PSJP04A05Z	CONNECTOR, 4 PIN	S
		(JACKS)	
JK1	PSJJ1T012Z	JACK, HANDSET	S
JK2	PSJJ1T019Z	JACK, HYBRID IP-PBX	S
JK3	PSJJ1T011Z	JACK, TELEPHONE LINE	S
JK4	PQJJ1C002Z	JACK, HANDSET	S
		(CERAMIC FILTERS)	
L2	PFVF1B601ST	CERAMIC FILTER	S
L3	PFVF1B601ST	CERAMIC FILTER	S
L6	PFVF1B601ST	CERAMIC FILTER	S

Ref. No.	Part No.	Part Name & Description	Remarks
L7	PFVF1B601ST	CERAMIC FILTER	S
L8	PFVF1B601ST	CERAMIC FILTER	S
L9	PFVF1B601ST	CERAMIC FILTER	S
		(COIL)	
L5	G1A331D00005	COIL	
		(COMPONENT PARTS)	
RA1	D1H81224A010	RESISTOR ARRAY	
		(TRANSFORMER)	
T1	ETJS13ZA14AB	TRANSFORMER	
		(CRYSTAL OSCILLATOR)	
X1	PSVCC0052C	CRYSTAL OSCILLATOR	S
		(RESISTORS)	
J4	ERJ3GEY0R00	0	
L4	ERJ6GEYJ3R3	3.3	
R1	ERJ3GEYJ105	1M	
R2	ERJ3GEYJ105	1M	
R3	ERJ3GEYJ105	1M	
R4	ERJ3GEYJ105	1M	
R7	ERJ3GEYJ471	470	
R8	ERJ3GEYJ473	47k	
R9	ERJ3GEYJ103	10k	
R10	ERJ3GEYJ102	1k	
R11	ERJ3GEYJ102	1k	
R12	ERJ6GEYJ3R3	3.3	
R13	ERJ3GEYJ473	47k	
R15	ERJ3GEYJ121	120	
R17	ERJ3GEYJ182	1.8k	
R18	ERJ3GEYJ222	2.2k	
R19	ERJ3GEYJ102	1k	
R20	ERJ3GEYJ222	2.2k	
R21	ERJ3GEYJ473	47k	
R23	ERJ3GEYJ333	33k	
R24	ERJ3GEYJ563	56k	
R25	ERJ3GEYJ473	47k	
R26	ERJ3GEYJ103	10k	
R27	ERJ3GEYJ183	18k	
R28	ERJ3GEYJ223	22k	
R29	ERJ3GEYJ333	33k	
R30	ERJ3GEYJ333	33k	
R31	ERJ3GEYJ224	220k	
R32	ERJ3GEYJ564	560k	
R33	ERJ3GEYJ333	33k	
R34	ERJ3GEYJ333	33k	
R35	ERJ3GEYJ102	1k	
R36	ERJ3GEYJ333	33k	
R37	ERJ3GEYJ221	220	
R38	ERJ3GEYJ473	47k	
R40	ERJ3GEYJ473	47k	

Ref. No.	Part No.	Part Name & Description	Remarks
R41	ERJ3GEYJ473	47k	
R42	ERJ3GEYJ393	39k	
R43	ERJ3GEYJ562	5.6k	
R45	ERJ3GEYJ473	47k	
R46	ERJ3GEYJ221	220	
R47	ERJ3GEYJ103	10k	
R48	ERJ3GEYJ181	180	
R49	ERJ3GEYJ102	1k	
R50	ERJ3GEYJ102	1k	
R51	ERJ3GEYJ102	1k	
R52	ERJ3GEYJ471	470	
R53	ERJ3GEYJ471	470	
R54	ERJ3GEYJ471	470	
R56	ERJ3GEYJ122	1.2k	
R57	ERJ3GEYJ122	1.2k	
R58	ERJ3GEYJ105	1M	
R59	ERJ3GEYJ331	330	
R60	ERJ3GEYJ182	1.8k	
R61	ERJ3GEYJ182	1.8k	
R62	ERJ3GEYJ822	8.2k	
R63	ERJ3GEYJ562	5.6k	
R64	ERJ3GEYJ123	12k	
R65	ERJ3GEYJ562	5.6k	
R66	ERJ3GEYJ682	6.8k	
R67	ERJ3GEYJ103	10k	
R68	ERJ3GEYJ122	1.2k	
R69	ERJ3GEYJ472	4.7k	
R70	ERJ3GEYJ182	1.8k	
R71	ERJ3GEYJ121	120	
R72	ERJ3GEYJ121	120	
R73	ERJ3GEYJ180	18	
R74	ERJ3GEYJ121	120	
R75	ERJ3GEYJ180	18	
R76	ERJ3GEYJ121	120	
R77	ERJ3GEYJ180	18	
R78	ERJ3GEYJ121	120	
R79	ERJ3GEYJ180	18	
R80	ERJ3GEYJ220	22	
R81	ERJ3GEYJ220	22	
R82	ERJ3GEYJ472	4.7k	
R83	ERJ3GEYJ101	100	
R84	ERJ3GEYJ101	100	
R85	ERJ3GEYJ122	1.2k	
R86	ERJ3GEYJ122	1.2k	
R87	ERJ3GEYJ271	270	
R88	ERJ3GEYJ822	8.2k	
R89	ERJ3GEYJ123	12k	
R90	ERJ3GEYJ272	2.7k	
R91	ERJ3GEYJ122	1.2k	
R92	ERJ3GEYJ561	560	
R93	ERJ3GEYJ331	330	
R94	ERJ3GEYJ180	18	
R95	ERJ3GEYJ561	560	
R96	ERJ3GEYJ331	330	

Ref. No.	Part No.	Part Name & Description	Remarks
R97	ERJ3GEYJ270	27	
R98	ERJ3GEYJ562	5.6k	
R99	ERJ3GEYJ180	18	
R100	ERJ3GEYJ330	33	
R101	ERJ3GEYJ100	10	
R102	ERJ3GEYJ223	22k	
R103	ERJ3GEYJ681	680	
R104	ERJ3GEYJ270	27	
R105	ERJ3GEYJ270	27	
R106	ERJ3GEYJ270	27	
R107	ERJ3GEY0R00	0	
R108	ERJ3GEYJ121	120	
R109	ERJ3GEYJ473	47k	
R110	ERJ3GEYJ473	47k	
R111	ERJ3GEYJ473	47k	
R116	ERJ3GEYJ153	15k	
R117	ERJ3GEYJ102	1k	
R118	ERJ3GEYJ105	1M	
R119	ERJ3GEYJ184	180k	
R120	ERJ3GEYJ103	10k	
R121	ERJ3GEYJ102	1k	
R122	ERJ3GEYJ473	47k	
R124	ERJ3GEYJ105	1M	
R125	ERJ3GEYJ274	270k	
R126	ERJ3GEYJ822	8.2k	
R127	ERJ3GEYJ100	10	
R128	ERJ3GEYJ151	150	
R129	ERJ3GEYJ473	47k	
R130	ERJ3GEYJ221	220	
R131	ERJ3GEYJ473	47k	
R132	ERJ3GEYJ473	47k	
R133	ERJ3GEYJ1R0	1	
		(CAPACITORS)	
C1	PQCUV1C225ZF	2.2	
C2	PQCUV1C225ZF	2.2	
C3	PQCUV1C225ZF	2.2	
C4	PQCUV1C225ZF	2.2	
C5	PQCUV1H105JC	1	S
C6	PQCUV1H105JC	1	S
C7	PQCUV1H105JC	1	S
C8	PQCUV1H105JC	1	S
C9	PQCUV1C105ZF	1	S
C10	ECUV1C104ZFV	0.1	
C11	PQCUV1A475ZF	4.7	
C12	ECUV1C104ZFV	0.1	
C13	ECUV1C104ZFV	0.1	
C14	ECUV1C104ZFV	0.1	
C17	ECUV1H103KBV	0.01	S
C18	ECUV1C104ZFV	0.1	
C19	ECUV1H103KBV	0.01	
C20	ECUV1H102KBV	0.001	S
C21	ECUV1H102KBV	0.001	S
C22	ECUV1C104ZFV	0.1	

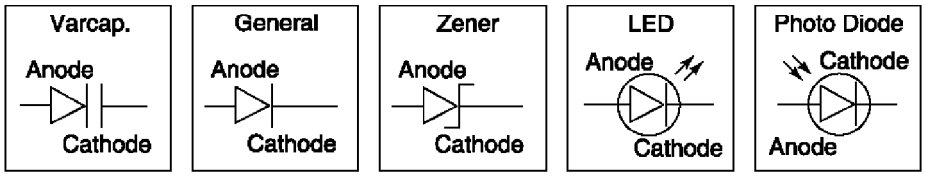
Ref. No.	Part No.	Part Name & Description	Remarks
C23	ECUV1C104ZFV	0.1	
C24	ECUV1C104ZFV	0.1	
C25	ECUV1H103KBV	0.01	S
C26	ECUV1H103KBV	0.01	S
C27	F2G0J1010014	100	
C28	F3F0G226A029	22	
C29	ECUV1A106ZF	10	
C30	ECUV1A106ZF	10	
C31	ECUV1A106ZF	10	
C32	ECUV1H122KBV	0.0012	
C33	ECUV1C104ZFV	0.1	
C35	ECUV1H100DCV	10p	
C36	ECUV1C104KBV	0.1	
C37	ECUV1C104KBV	0.1	
C38	ECUV1H153KBV	0.015	
C39	ECUV1H152KBV	0.0015	
C40	ECUV1H820JCV	82p	
C41	ECUV1H680JCV	68p	
C42	ECUV1H332KBV	0.0033	
C43	ECUV1C104KBV	0.1	
C44	PQCUV1C224ZF	0.22	S
C46	ECUV1A106ZF	10	
C47	ECUV1C104ZFV	0.1	
C48	ECUV1C104ZFV	0.1	
C49	ECUV1A106ZF	10	
C50	ECUV1A106ZF	10	
C51	ECUV1C104KBV	0.1	
C53	ECUV1C104KBV	0.1	
C54	ECUV1H103KBV	0.01	S
C56	ECUV1C104KBV	0.1	
C58	ECUV1C104ZFV	0.1	
C59	EEEFK0J101P	100	
C63	ECUV1H120JCV	12p	
C66	ECUV1C104ZFV	0.1	
C69	ECUV1C104ZFV	0.1	
C71	ECUV1C104ZFV	0.1	
C72	ECUV1C104ZFV	0.1	
C73	ECUV1C104ZFV	0.1	
C74	ECUV1H102KBV	0.001	S
C75	ECUV1H102KBV	0.001	S
C76	ECUV1C104ZFV	0.1	
C77	ECUV1H120JCV	12p	
C78	ECUV1H120JCV	12p	
C79	ECUV1C104ZFV	0.1	
C80	ECUV1C104ZFV	0.1	
C81	ECUV1C104ZFV	0.1	
C83	ECUV1C104ZFV	0.1	
C84	ECUV1C104ZFV	0.1	
C85	ECUV1C104ZFV	0.1	
C86	PQCUV1H105JC	1	S
C87	PQCUV1H105JC	1	S
C88	EEEFK0J101P	100	
C91	ECUV1H102KBV	0.001	S
C92	ECUV1H102KBV	0.001	S

Ref. No.	Part No.	Part Name & Description	Remarks
C93	EEEFK0J101P	100	
C94	ECUV1C104ZFV	0.1	
C95	ECUV1H101JCV	100p	
C96	ECUV1H101JCV	100p	
C97	ECUV1C104ZFV	0.1	
C98	PQCUV1C105ZF	1	S
C99	PQCUV1C105ZF	1	S
C100	PQCUV1H105JC	1	S
C101	ECUV1C104ZFV	0.1	
C102	PQCUV1C224ZF	0.22	S
C103	PQCUV1C105ZF	1	S
C104	PQCUV1H105JC	1	S
C105	ECUV1H103KBV	0.01	S
C106	ECUV1E104ZFV	0.1	S
C107	F2G1H3300004	33	
C108	ECUV1H102KBV	0.001	S
C109	ECUV1H103KBV	0.01	S
C110	ECUV1C104ZFV	0.1	
C111	EEEFK0J101P	100	
C112	ECUV1C104KBV	0.1	
C114	ECUV1E223KBV	0.022	
C115	ECUV1H103KBV	0.01	S
C116	ECUV1H103KBV	0.01	S
C117	ECUV1C104ZFV	0.1	
C118	ECUV1C104ZFV	0.1	
C119	ECUV1H103KBV	0.01	S
C120	ECUV1H100DCV	10p	
C121	ECUV1H100DCV	10p	
C122	ECUV1H100DCV	10p	
C123	ECUV1H100DCV	10p	
C124	ECUV1H100DCV	10p	
C125	ECUV1H100DCV	10p	
C126	ECUV1H100DCV	10p	
C129	ECUV1C104ZFV	0.1	
C142	ECUV1H100DCV	10p	
C144	ECUV1H102KBV	0.001	S
C146	ECUV1H100DCV	10p	
C147	ECUV1H102KBV	0.001	S
C148	ECUV1H331JCV	330p	
C149	ECUV1H331JCV	330p	

16. FOR THE SCHEMATIC DIAGRAM

Note:

1. **DC voltage measurements are taken with an oscilloscope or a tester with a ground.**
2. **The schematic diagrams and circuit board may be modified at any time with the development of new technology.**



Important safety notice
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of there components, use only manufacturer's specified parts.

17. SCHEMATIC DIAGRAM

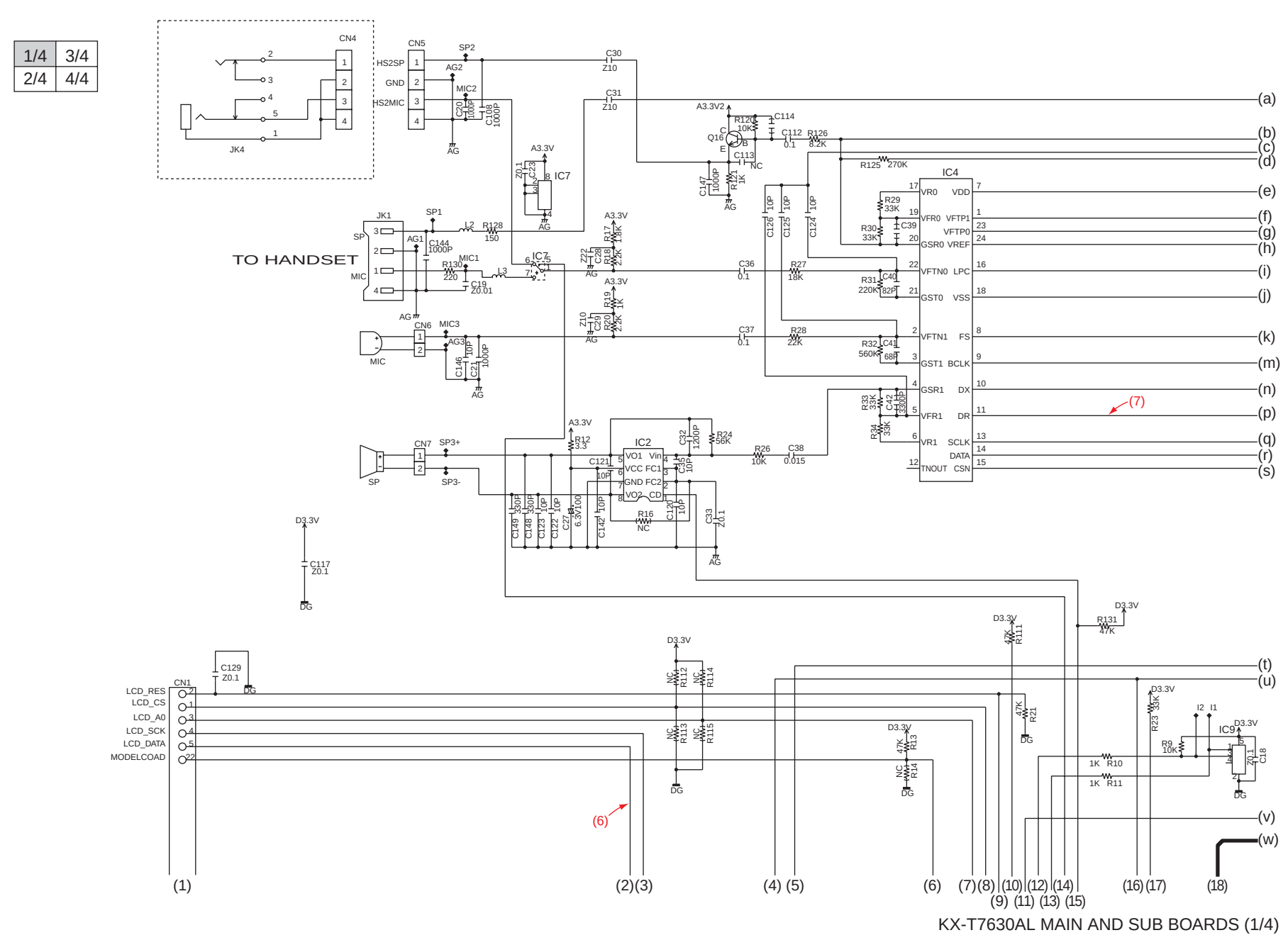
18. WAVEFORM

19. PRINTED CIRCUIT BOARD (MAIN / SUB BOARDS)

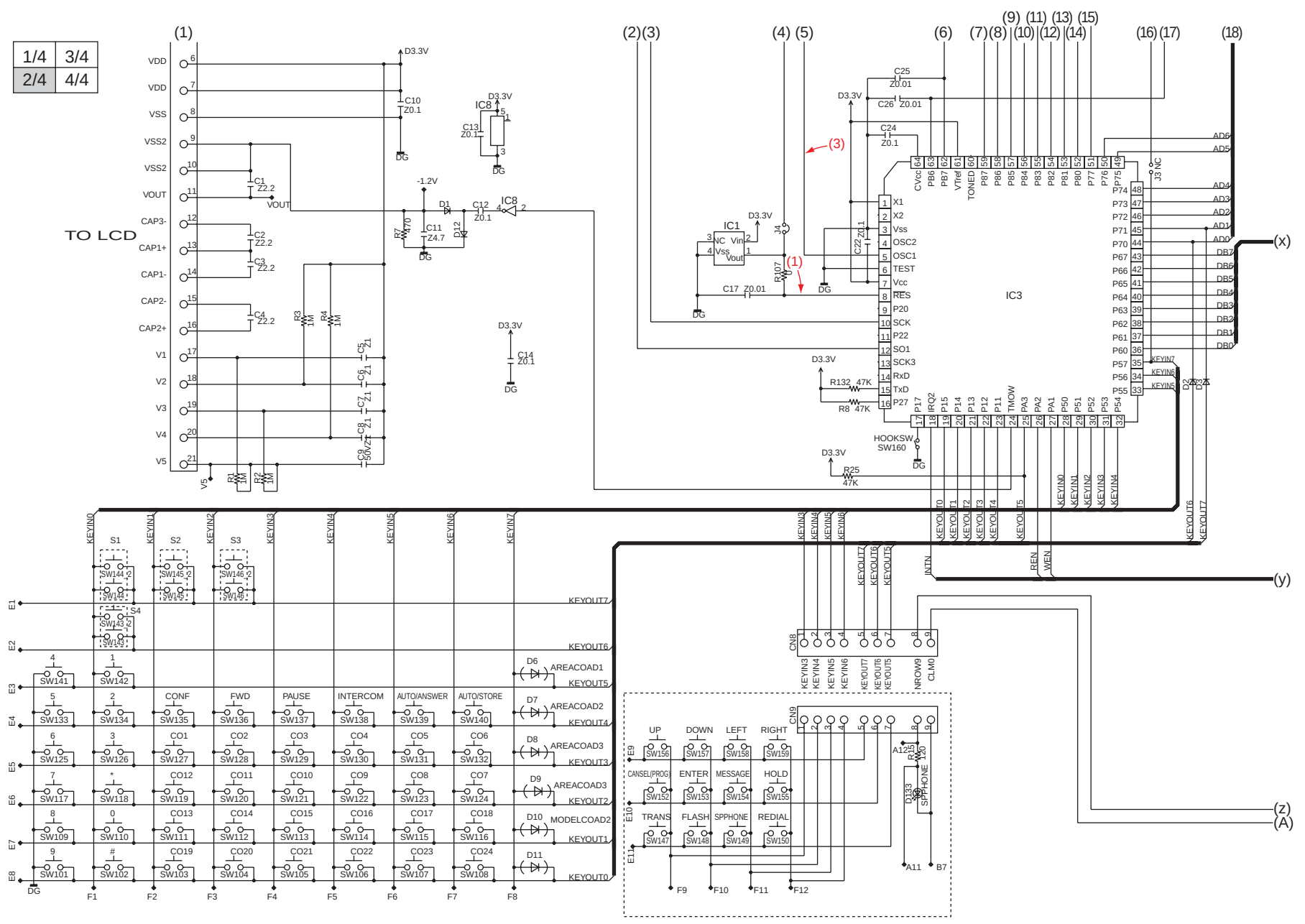
19.1. COMPONENT VIEW

19.2. BOTTOM VIEW

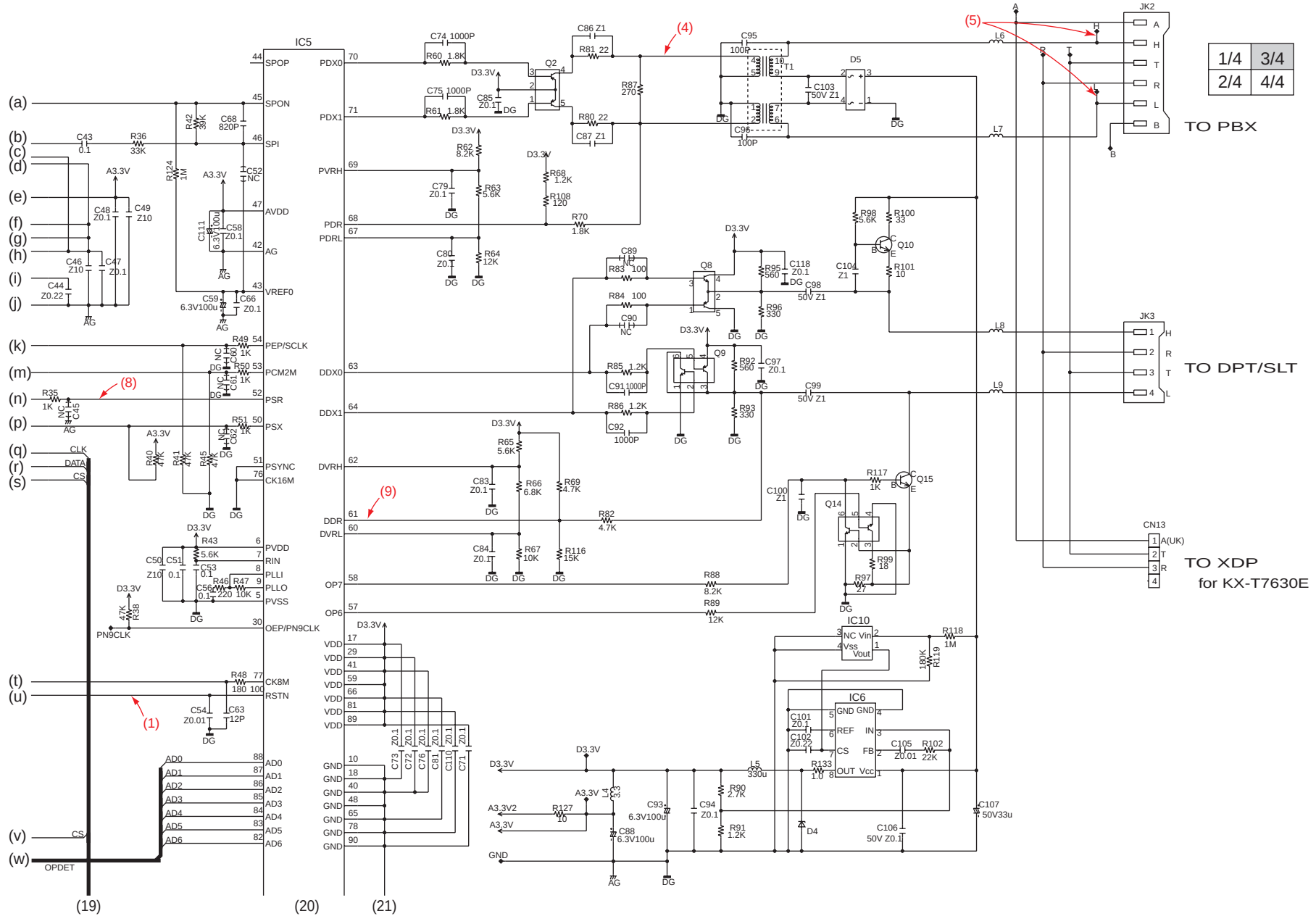
Y / KXT7630AL /

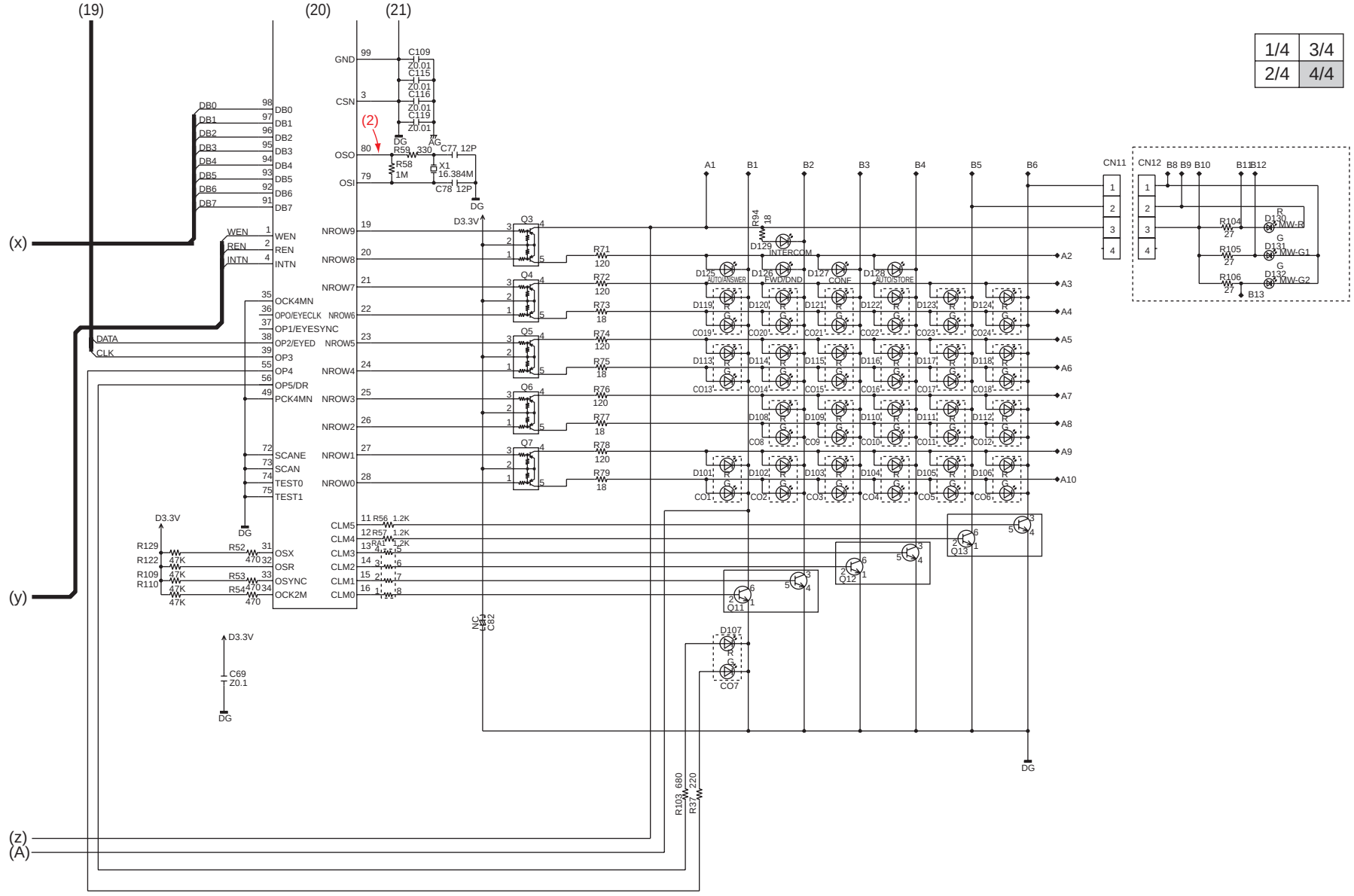

TO HANDSET
CN4
JK4
CN5
HS2SP
GND
HS2MIC
SP2
MIC2
IC7
JK1
SP1
MIC1
CN6
MIC3
CN7
SP3+
SP3-
IC2
IC4
VR0 VDD
VFR0 VFTP1
VFTP0
GSR0 VREF
VFTN0 LPC
GST0 VSS
VFTN1 FS
GST1 BCLK
GSR1 DX
VFR1 DR
VR1 SCLK
DATA
TNOUT CSN
A3.3V
D3.3V
DG
AG
CN1
LCD_RES
LCD_CS
LCD_A0
LCD_SCK
LCD_DATA
MODELCOAD
IC9
(1)
(2)(3)
(4) (5)
(6)
(7)
(8)
(9)
(10)
(11)
(12)
(13)
(14)
(15)
(16)(17)
(18)

1/4	3/4
2/4	4/4

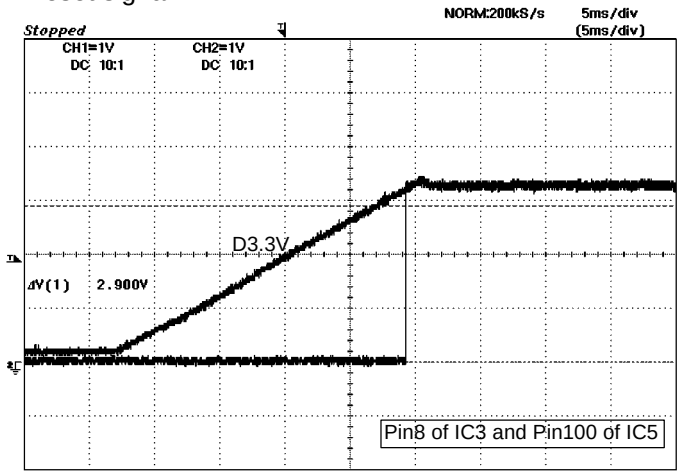


KX-T7630AL MAIN AND SUB BOARDS (2/4)

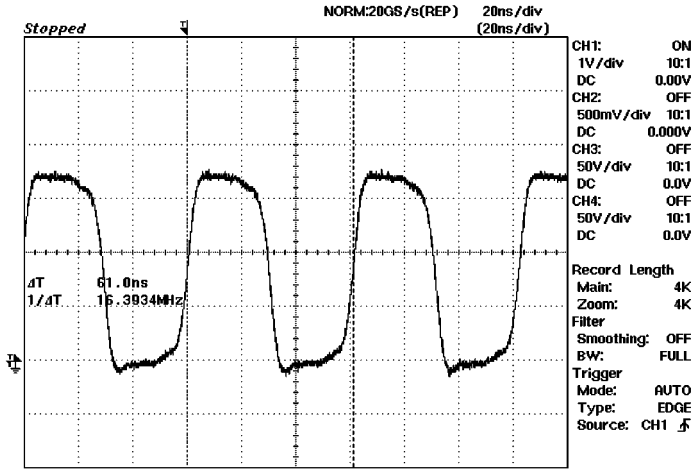

IC5
SPOP
SPON
SPI
AVDD
AG
VREF0
PEP/SCLK
PCM2M
PSR
PSX
PSYNC
CK16M
PVDD
RIN
PLLI
PLLO
PVSS
OEP/PN9CLK
CK8M
RSTN
AD0
AD1
AD2
AD3
AD4
AD5
AD6
OPDET
PDX0
PDX1
PVRH
PDR
PDRL
DDX0
DDX1
DVRH
DDR
DVRL
OP7
OP6
VDD
GND
D3.3V
A3.3V
A3.3V2
DG
AG
IC10
IC6
JK2
JK3
CN13
TO PBX
TO DPT/SLT
TO XDP
for KX-T7630E
1/4
3/4
2/4
4/4
KX-T7630AL MAIN AND SUB BOARDS (3/4)


(19)
(20)
(21)
(x)
(y)
(z)
(A)
(2)
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
WEN
REN
INTN
DATA
CLK
SCANE
SCAN
TEST0
TEST1
OCK4MN
OPO/EYECLK
OP1/EYESYNC
OP2/EYED
OP3
OP4
OP5/DR
PCK4MN
OSX
OSR
OSYNC
OCK2M
GND
CSN
OSO
OSI
C109
C115
C116
C119
R59 330
R58 1M
X1 16.384M
C77 12P
C78 12P
D3.3V
DG
AG
NROW9
NROW8
NROW7
NROW6
NROW5
NROW4
NROW3
NROW2
NROW1
NROW0
CLM5
CLM4
CLM3
CLM2
CLM1
CLM0
Q3
Q4
Q5
Q6
Q7
R71 120
R72 120
R73 18
R74 120
R75 18
R76 120
R77 18
R78 120
R79 18
A1
B1
B2
B3
B4
B5
B6
A2
A3
A4
A5
A6
A7
A8
A9
A10
R94 18
D129 INTERCOM
D125 AUTO/ANSWER
D126 FWD/DND
D127 CONF
D128 AUTO/STORE
CO19
CO20
CO21
CO22
CO23
CO24
CO13
CO14
CO15
CO16
CO17
CO18
CO8
CO9
CO10
CO11
CO12
CO1
CO2
CO3
CO4
CO5
CO6
D107
CO7
Q11
Q12
Q13
R103 680
R37 220
CN11
CN12
B8 B9 B10 B11 B12
B13
R104 27
R105 27
R106 27
D130 MW-R
D131 MW-G1
D132 MW-G2

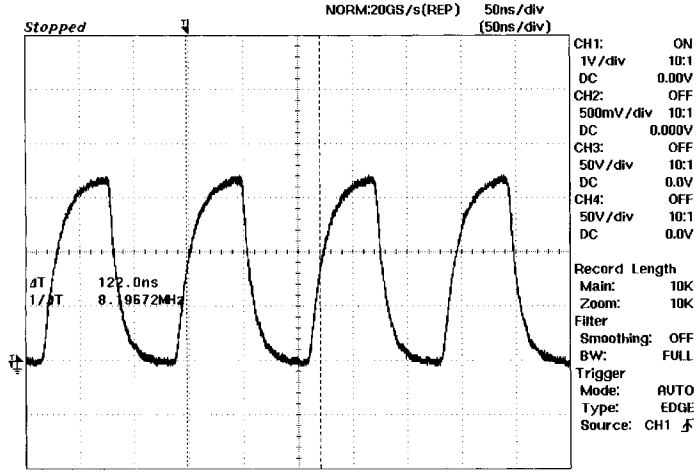
(1) Pin8 of IC3 and Pin100 of IC5
Reset signal



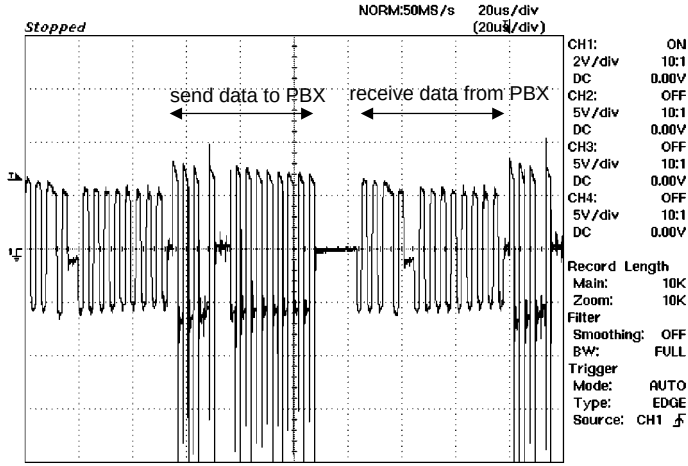
(2) Pin80 of IC5 16.384MHz



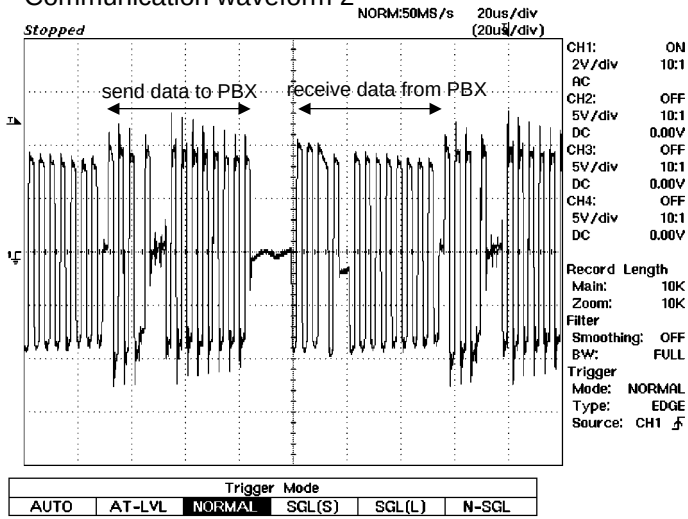
(3) Pin5 of IC3 8.196MHz



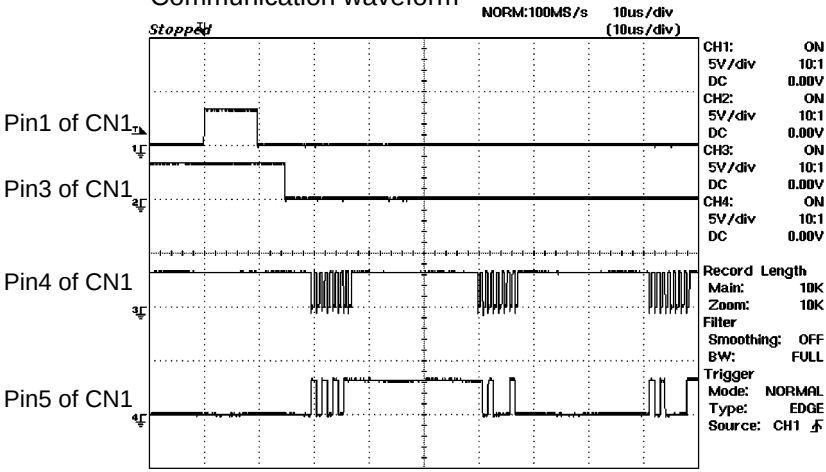
(4) Pin4 of T1
Communication waveform 1



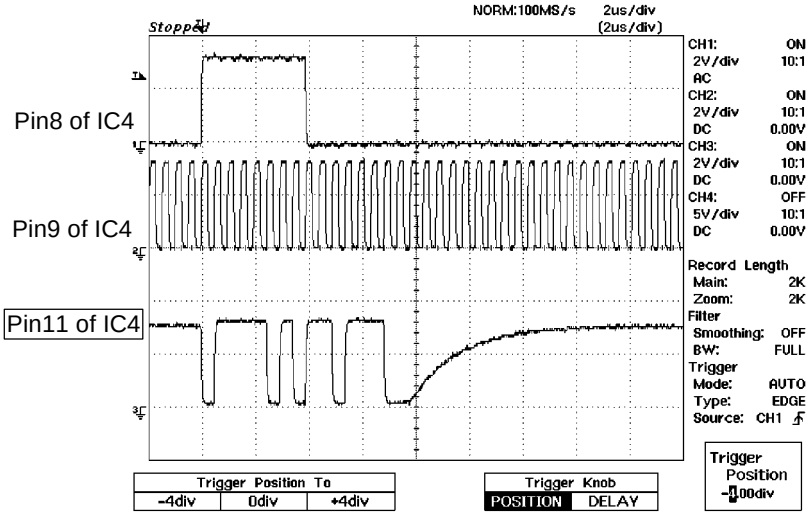
(5) Between H and L
Communication waveform 2



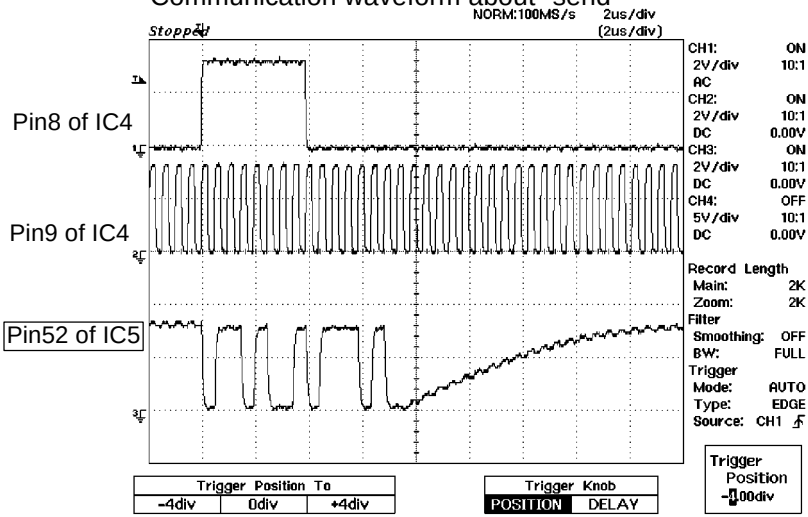
(6) Pin1 to 5 of CN1
Communication waveform



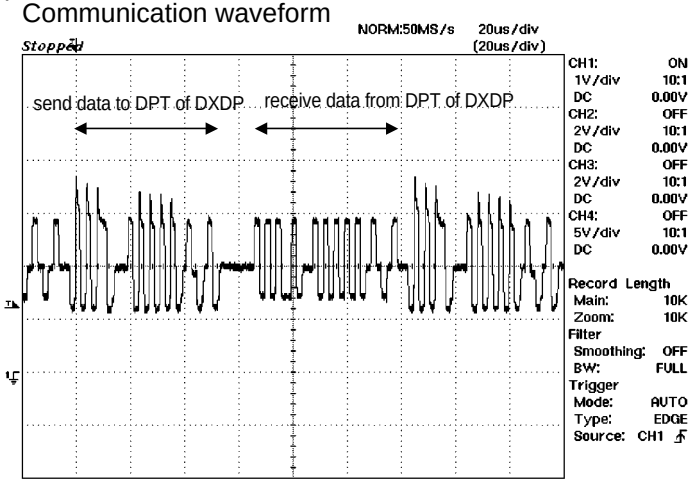
(7) Pin11 of IC4
Communication waveform about "receive"

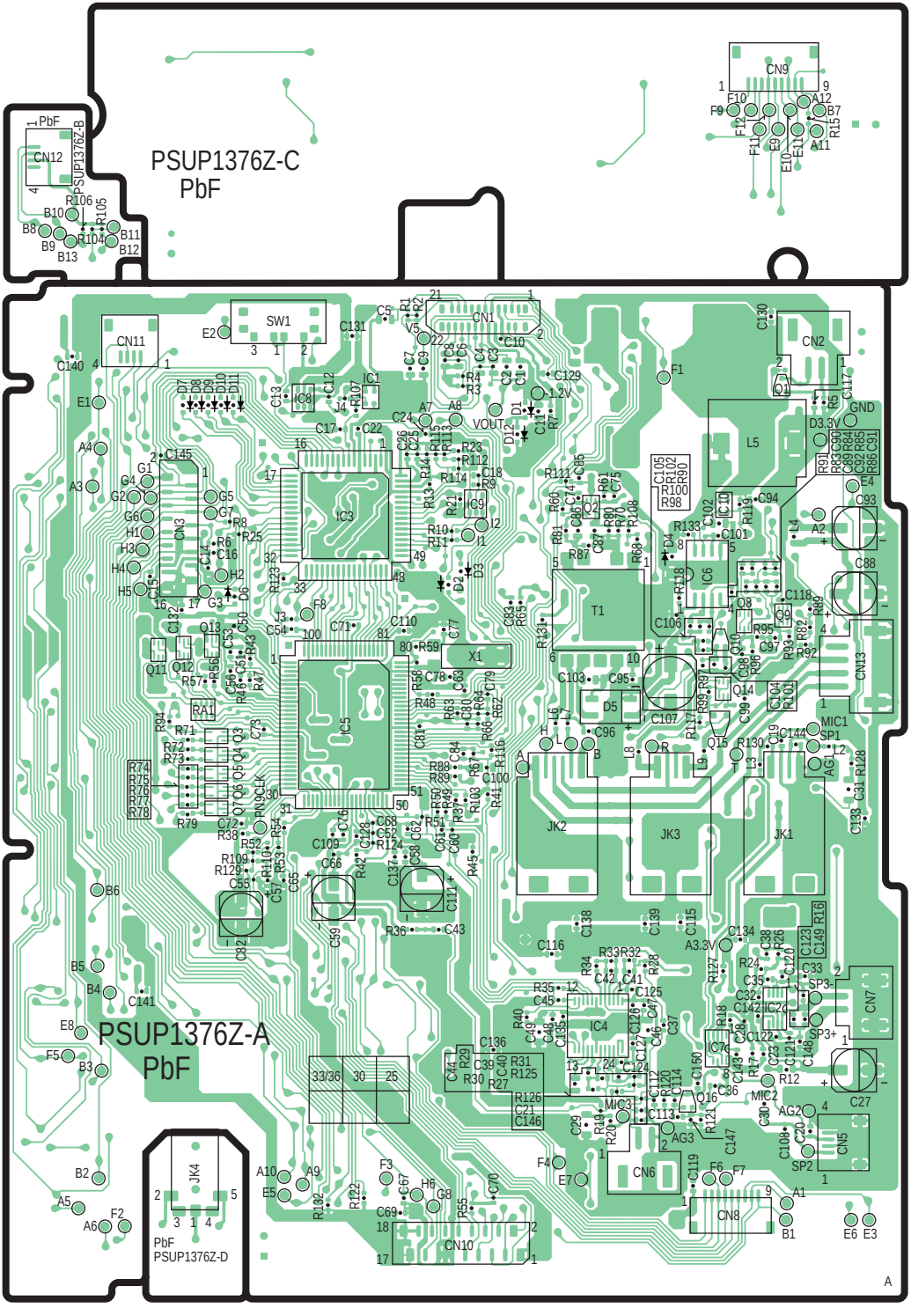


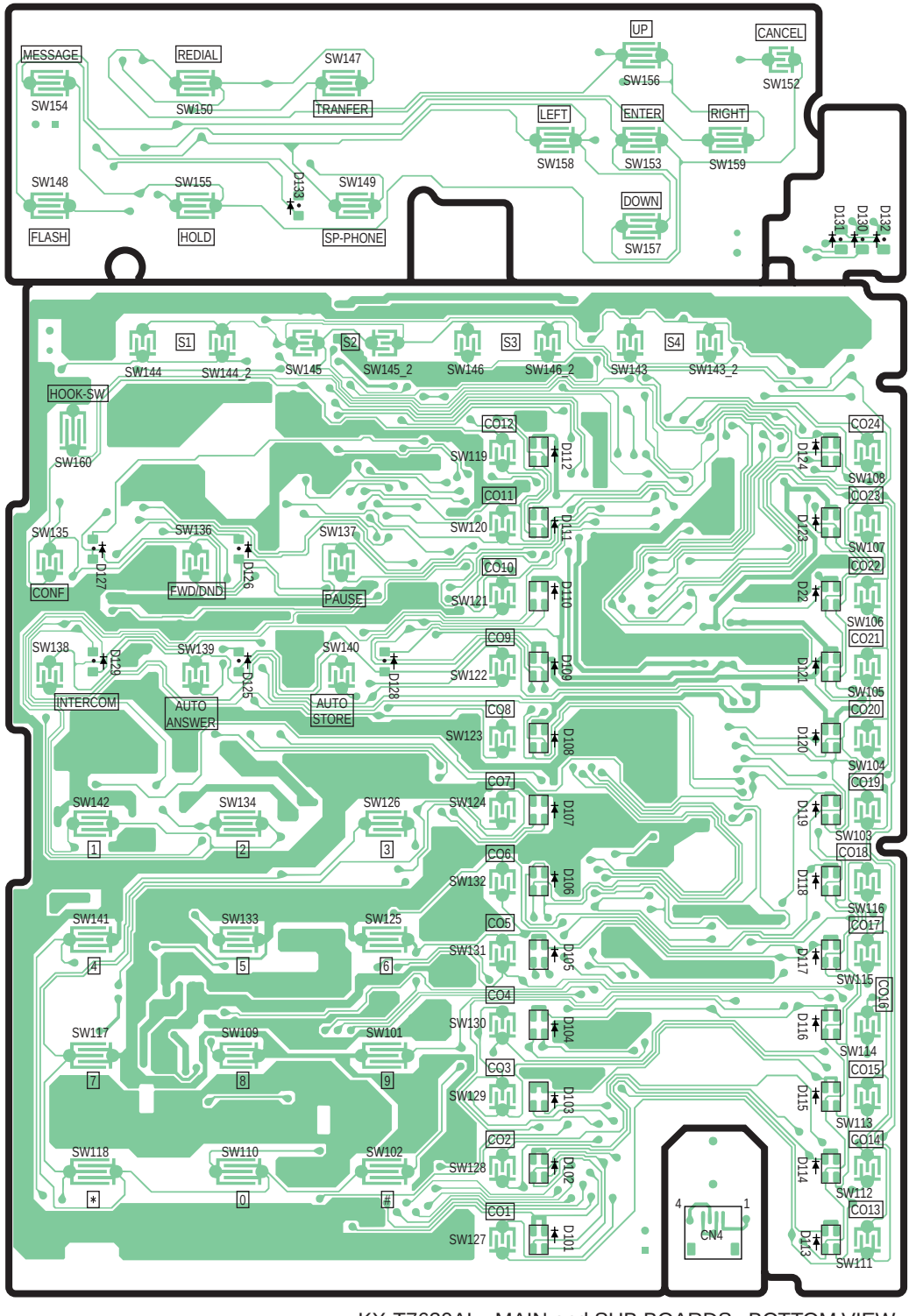
(8) Pin52 of IC5
Communication waveform about "send"



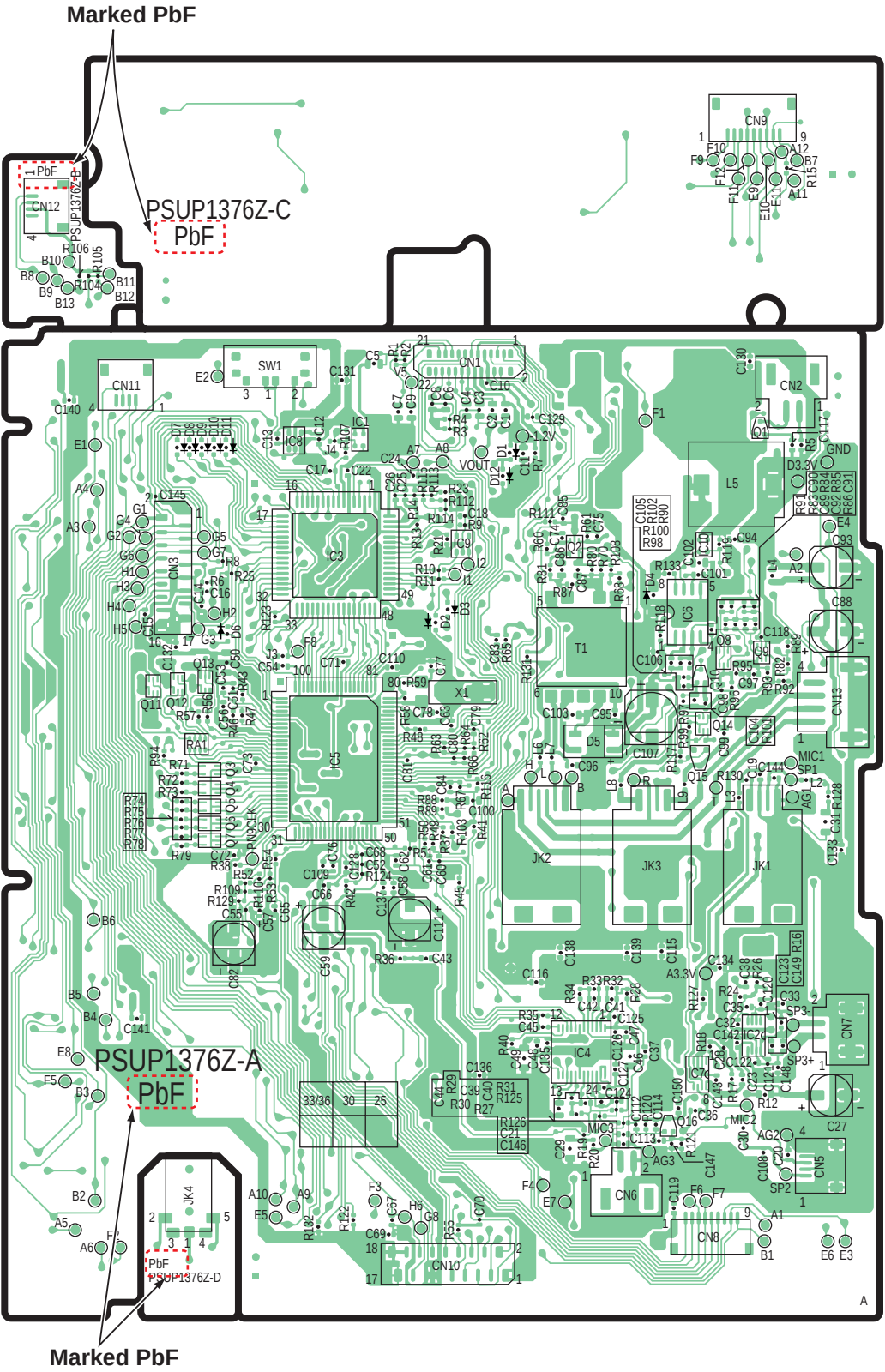
(9) Pin61 of IC5
Communication waveform

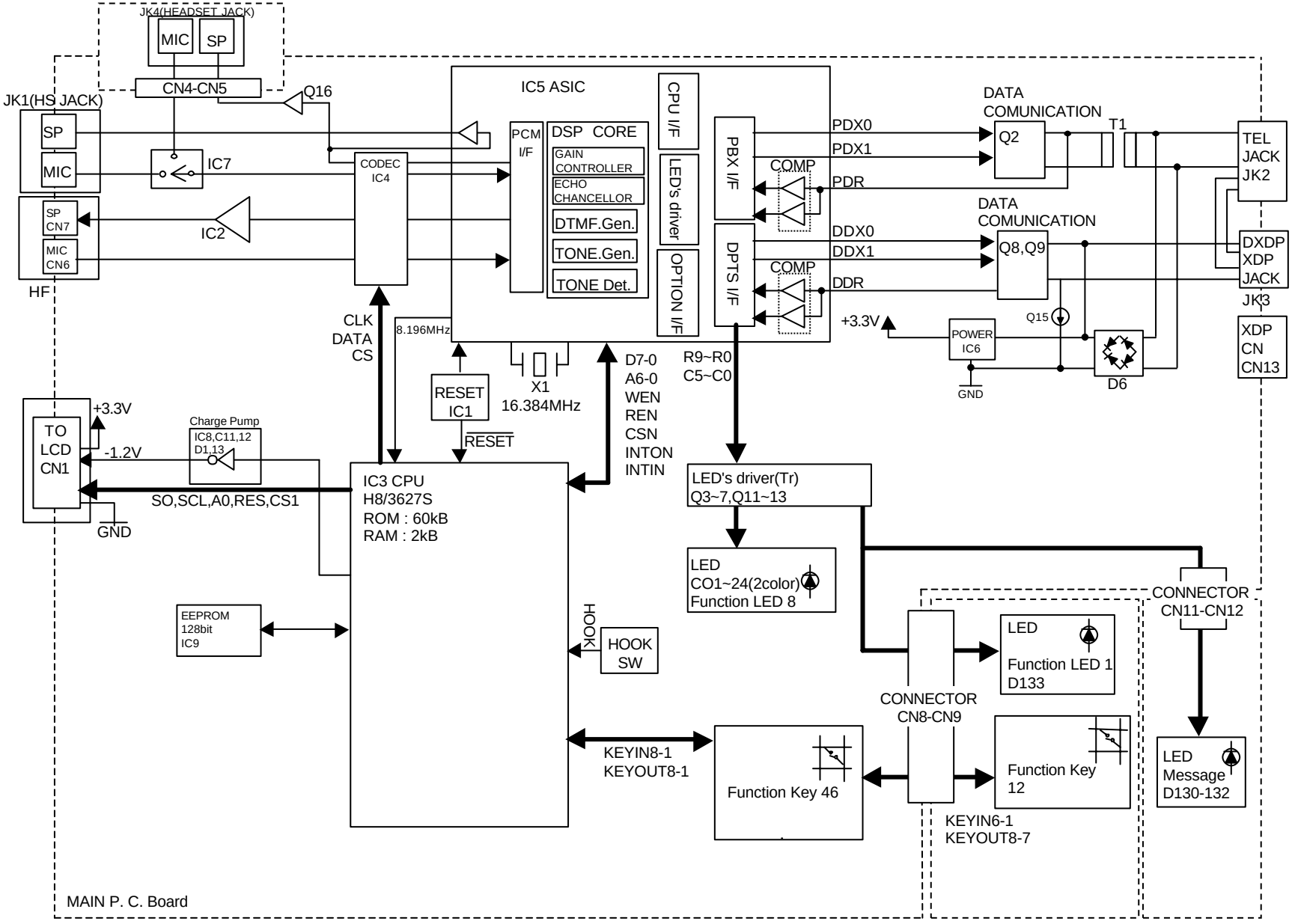



PSUP1376Z-C
PbF
PSUP1376Z-A
PbF
PbF
PSUP1376Z-D
PSUP1376Z-B
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
SW1
JK1
JK2
JK3
JK4
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
T1
X1
L5
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
GND
D3.3V
A3.3V
1.2V
VOUT
V5
MIC1
MIC2
MIC3
SP1
SP2
SP3
SP3+
AG1
AG2
AG3
A
KX-T7630AL : MAIN and SUB BOARDS : COMPONENT VIEW



KX-T7630AL : MAIN and SUB BOARDS : BOTTOM VIEW


Marked PbF
PSUP1376Z-C
PbF
PSUP1376Z-A
PbF
PbF
PSUP1376Z-D
Marked PbF



KX-T7630AL : BLOCK DIAGRAM

ANALOG CIRCUIT